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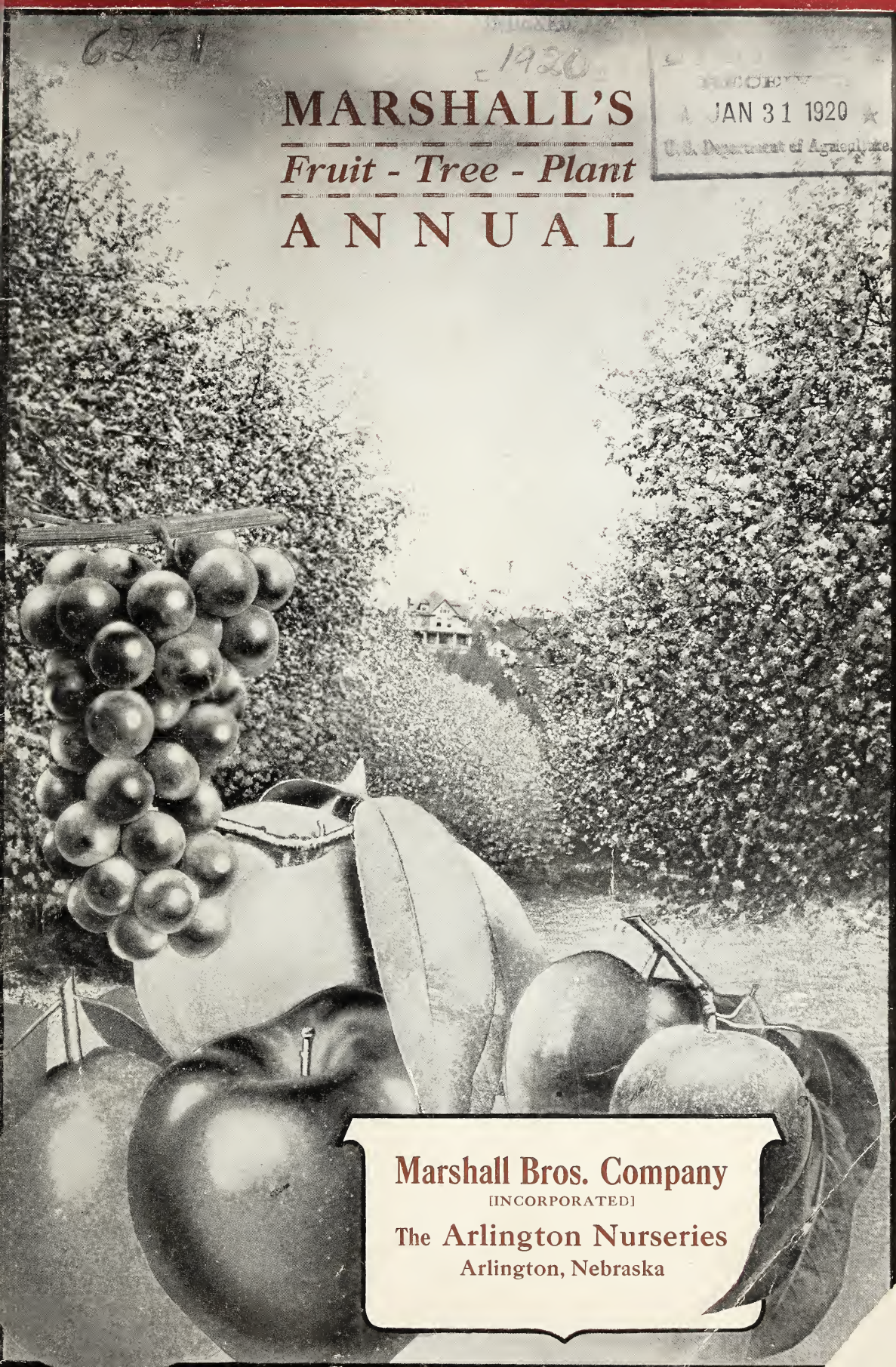


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1920

**MARSHALL'S**  
*Fruit - Tree - Plant*  
**A N N U A L**

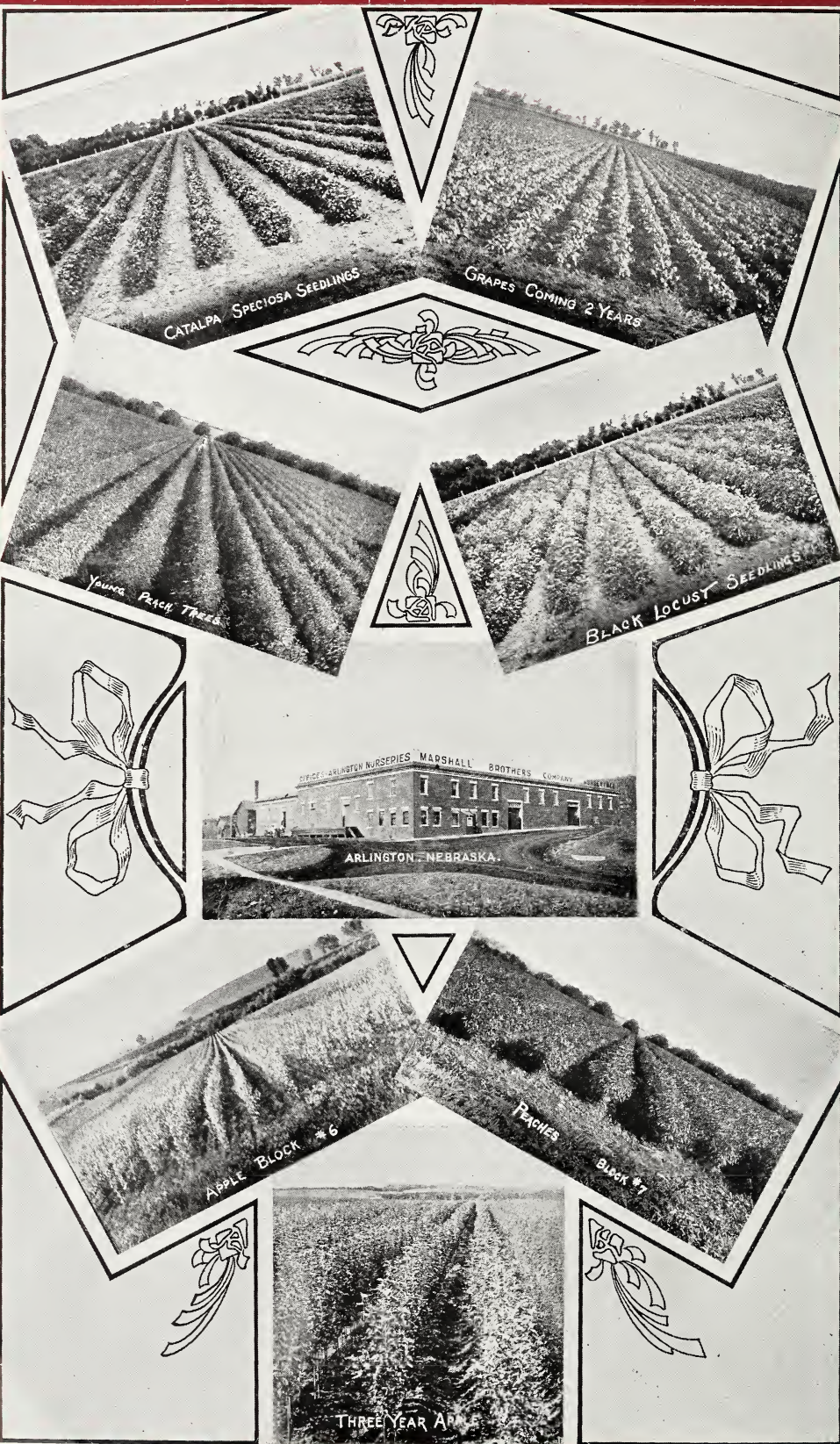
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**Marshall Bros. Company**  
[INCORPORATED]

**The Arlington Nurseries**  
Arlington, Nebraska





CATALPA SPECIOSA SEEDLINGS

GRAPES COMING 2 YEARS

Young Peach Trees

BLACK LOCUST SEEDLINGS

ARLINGTON NURSERIES MARSHALL BROTHERS COMPANY  
ARLINGTON, NEBRASKA.

APPLE BLOCK #6

PEACHES  
BLOCK #7

THREE YEAR APPLE



# HOW WE SERVE YOU

*Commercial Orchardist—Moderate Planter—City and Country Home Owner*

THE COMMERCIAL ORCHARDIST, the moderate planter and the city and country home owner alike find in this Catalog a Nursery and Landscape guide of practical value. We take great pains to base all recommendations on the actual results of our own experience, and strive to make our descriptions and seasons of ripening as accurate and as clear as possible. We have given our whole time for more than a quarter of a century to constant experimenting and study.

We grow a general line of nursery stock, shade and forest trees, berry plants and ornamental shrubs.

We have selected from the list in this catalog the varieties best suited to Nebraska, Kansas, South Dakota and western Iowa, which are marked with an asterisk (\*). Please notice this in making your selection. It is well to remember that the harvest will depend on what you plant. The intelligent planter has his harvest in view when he selects his stock. If you do not know what varieties you wish to plant it is well to stick close to the (\*) sorts, as a mistake, once made, can never be satisfactorily rectified.

We are continually discarding many varieties highly recommended for this country by people not living here or who have not studied the behavior of such varieties closely enough or for a long enough time to determine their real worth. Our object is to grow such trees, plants, vines, etc., as will do well in our northern and western climate. We are pleased to note that fruit trees under high, shallow cultivation will stand our occasional extremely dry seasons better than most farm crops, and under ordinary care can be brought through our driest or most extreme seasons in a thrifty, healthy condition.

Our nurseries are in a condition of which we are justly proud. Our facilities are excellent for the growing and handling of nursery stock. Our orchards are yielding handsome returns, fruit finding ready sale in any market, East as well as West.

We started in business thirty-one years ago—three brothers of us—George A., Harvey W. and Chester C. Marshall. We saw the genuine need and the lively demand for nursery stock right here in this section, so we began with the idea of starting a local nursery, growing A-1 stock, adapted to western climate and soil and conditions and that was true to name. We knew that stock propagated here and climated would grow better than stock grown a long way off and shipped in. Our location was ideal, being on high table land. Trees and plants on high land transplant much more easily than those grown on low, black soil.

George A., president, since childhood, leaned toward horticulture. He was always studying the growth and habits of trees and plants. He was the chief propagator and horticulturist of the firm from the start. He also served as president of the Nebraska State Horticultural Society for several years, and still is a member

of the board of directors, and a well-known and active worker at state and national horticultural meetings. He has charge of the propagation and growing of the stock. He lives at the nursery two miles east of town, has direct charge and keeps in constant touch with all operations.

Harvey W., treasurer, having fitted himself as an accountant and being of a business turn of mind, has, from the start, had charge of the office and sales forces, and while he still looks after the sales department he has recently been relieved of the larger part of the office management by the present secretary.

Chester G., secretary, was for three years connected with the Department of Horticulture at the Nebraska Experiment Station, University of Nebraska; for four years was secretary of the Nebraska State Horticultural Society, and for two years manager of the Central Fruit Growers' Association.

Austin C., vice-president, and Chester C., members of Board of Directors, though active in the business for years, now are otherwise engaged.

We grow millions of trees and plants each year on our 400 acres. We have a complete organization, and from fifty to sixty trained workers all the year round and 100 during the busy season. Employees and their families live in our cottages on the nursery. We train our own workers. Our representatives, too, as a rule, are men who have made nursery business a study and are competent to advise intelligently with our customers. We do not employ the old time professional transient tree "agent."

Our main office building in Arlington is a new, modern, frost-proof structure of brick, 140x160 feet. Our offices, packing house and assembling rooms are modern and commodious. An 18-inch brick and tile wall and a roof constructed with dead air space prevents stock from drying out.

We shall be pleased to hear from you at any time, and shall take pleasure in answering all inquiries to the best of our ability, whether you purchase or not. Come visit the nurseries. We will be glad to show you around at any time you can make it convenient to call. Thanking you for past favors, and hoping your patronage will grow, we are,

Very respectfully,

MARSHALL BROTHERS COMPANY,  
Arlington, Nebraska.

## Advice to Correspondents

When particular varieties are ordered state whether and to what extent other varieties may be substituted, in case the orders cannot be filled to the letter, as happens occasionally in all nurseries. When no instructions of this kind accompany the order the best judgment will be exercised in filling the order so as to render satisfaction to the purchaser. It is requested that explicit directions for marking and shipping stock accompany the order. But when such directions are not given it will be shipped the cheapest and most direct route by freight, unless it is deemed safest and best to ship by express, and in all cases the shipment will be at the risk of the purchaser, and if delay or loss occur in transit the forwarders alone must be held responsible.

Customers are requested to send notice at once of any error that may be committed in filling their order, so that it may be rectified and explained.

## Guarantee of Genuineness

While the greatest diligence and care to have all trees, etc., true to label will be exercised, mistakes may occur, and in such cases, upon proper proof, the goods will be replaced free of charge, and it is mutually understood that our responsibility ceases at this.

## Number of Trees and Plants on an Acre at Various Distances

1 foot by 1 foot.....	43,560	5 feet by 5 feet.....	1,740
2 feet by 1 foot.....	21,780	6 feet by 6 feet.....	1,210
2 feet by 2 feet.....	10,890	8 feet by 8 feet.....	680
3 feet by 1 foot.....	14,520	10 feet by 10 feet.....	435
3 feet by 2 feet.....	7,260	12 feet by 12 feet.....	302
3 feet by 3 feet.....	4,840	15 feet by 15 feet.....	193
4 feet by 1 foot.....	10,890	16 feet by 16 feet.....	170
4 feet by 2 feet.....	5,445	18 feet by 18 feet.....	134
4 feet by 3 feet.....	3,630	20 feet by 20 feet.....	108
4 feet by 4 feet.....	2,722	25 feet by 25 feet.....	69
5 feet by 2 feet.....	4,356	30 feet by 30 feet.....	49
5 feet by 3 feet.....	2,904	33 feet by 20 feet.....	66
5 feet by 4 feet.....	2,178	33 feet by 33 feet.....	40

## Directions for Transplanting and Care of Nursery Stock

### IMPORTANT—READ CAREFULLY.

We guarantee to deliver our nursery products in a good, live, healthy condition, and are taking the additional precaution of placing a copy of these "Transplanting Directions" in your hands. With first-class stock and such information at hand there is little reason for failure.

We urge every customer to follow directions given herein, in the least doubt as to the proper course to pursue. Careless or ignorant planting is very expensive to the customer and damaging to the credit of the nurseryman, who has delivered fine, healthy, well grown trees

and plants, and who has to bear the blame of the loss, well knowing that in many cases it is the fault or ignorance of the planter.

### CARE OF STOCK WHEN RECEIVED.

The bundles should be opened immediately, the roots dipped in water, then heeled in moist ground, so that the mellow earth will come in contact with the roots and thoroughly protect them from the air, having the earth tamped solid about them.

When ready to plant take up only a few at a time, puddle the roots and do not allow them to lay exposed to the sun or air.

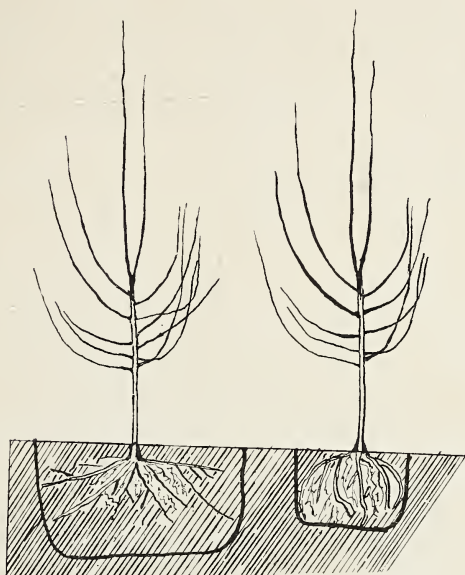
The ground should be carefully prepared by



deep plowing and firming down with a disc and harrow.

### PLANTING.

The holes for planting must be large enough to receive the roots freely, without cramping or bending them from their natural position. All broken or mutilated portions of the roots



Almost Sure to Live. Almost Sure to Die.

Dig Holes Large Enough to Admit Roots in Natural Position. Set Several Inches Deeper Than Stood in Nursery Row. Pack Soil Solid About Roots.

must be cut off so as to leave the ends smooth and sound. All trees should be planted two or three inches deeper than they stood in the nursery row; pack the soil very firmly about the roots by tamping with the feet or post tamper, being careful not to bark or break the roots. Leave three inches of the surface soil loose to serve as a mulch. If the ground is very dry apply one to two pails of water before this soil mulch is in place, and after the water has soaked away it can then be placed over the moist soil.

**Mulching**—Unless through surface cultivation will be practiced during the summer a mulch should be applied. This may be a layer of coarse manure or vegetable matter around the trees three to six inches deep, and extending out from the trees three or five feet. Mulching protects the soil against the sun and drying winds; against alternate freezing and thawing, and provides some plant food.

**Staking**—If the newly planted trees are in an exposed situation where hard winds prevail, they should be supported by stakes for a few years, to prevent winds from whipping and swaying them. Staking is done best by driving two strong stakes firmly into the ground,

one on each side of the tree, and about a foot from it, to which the tree is tied by strips of cloth, band of straw, or other soft material which will not chafe. The tree should remain staked until its roots have obtained a firm hold in the soil. Staking in this manner also offers some protection against mechanical injury. In addition to staking it is highly advisable to wrap the trunks of newly set trees with heavy brown paper, burlap, cornstalks or thin wood veneer to protect against rabbits and mice, or sunscald.

### PRUNING.

The pruning of trees should begin when they are planted. The transplanting of a tree marks a very critical point of its life history, and to neglect careful and proper methods of planting and pruning at that time is to invite disaster or, at least, unsatisfactory returns from one's efforts. When trees are dug in the nursery row many of the feeding roots are left in the ground, hence it is necessary to prune the top of the trees in an effort to balance for loss of roots.

**Apple and Pear**—When you have planted these as previously directed select from three to five of the branches to form the permanent head of the tree. These branches should be well distributed around the trunk, and at some distance apart up and down the trunk. If two branches come out exactly opposite each other, forming a crotch, a split may occur at this weak point in later life, when the tree is full of fruit. Shorten these selected branches back to about five buds, cutting the branches just above a bud that points outward. Remove all the other branches close to the trunk, leaving no stub longer than one-eighth to one-quarter inch. Also shorten back two-thirds the central leader of the tree if one exists, else the tree will assume a too upright growth for best results in later life.

Pruning for the next two or three years should be directed toward the foundation of an ideal framework for the bearing of fruit. Each of the three or five original branches should be pruned in such a manner that the tree will become symmetrical and well balanced, with a low, wide-headed top.

**Peach and Apricot**—Plant as previously directed. As soon as planted cut the top out of the tree anywhere from eighteen inches to three feet from the ground (depending on size of tree), and at the same time cut back all side branches to within two or three inches from the main trunk. To many, these recommendations may sound radical and ill advised, but every planter should make it the invariable practice and not deviate from it. In pruning these trees it should be the effort of the planter to get the main limbs as close to the ground as possible, encouraging a low wide head. Such pruning as recommended will promote much more vigorous and rapid growth than if not pruned, and will insure success with these trees, when to act otherwise might mean failure.

**Cherry**—Plant as previously directed. The cherry does not require the same vigorous pruning as recommended for some others. Broken or injured limbs should be removed close to the trunk, so that wounds will grow over properly. Five to six good limbs, well distributed around the trunk will be sufficient to form a well-balanced top. The limbs left after pruning should not be cut back as severely as recommended for some other classes.

**Plum**—Plant as previously directed. After planting cut out the main or central leader of the tree at a distance of about three feet from the ground. Cut back all remaining branches to about two or three buds. After the tree has grown for a year remove all but four or five

apart both ways, same depth as plants stood in the nursery row, and firm soil well.

**Blackberries, Raspberries, Dewberries**—These should be set fairly deep, except one-year old raspberry plants, the new growth of which starts from the crown in the mass of hair-like roots. These should be planted shallow, with the crown not more than one inch below the surface. Too deep planting is often fatal to one-year-old raspberry plants. Plant in rows five to six feet apart with plants three to four feet apart in the row. Firm the dirt around each plant. Keep surface of ground loose. Water in dry weather during growing season. Mulch in winter after the ground is frozen.

**Strawberries**—Plants should be set and cared for the same as tomato and cabbage plants. Plant in rows three to three and one-half feet apart and twelve to fifteen inches in a row. The cheapest way to grow them is to plant in long rows and tend with a corn plow, using shields. Never allow rows to spread to more than eight or ten inches in width. Cover the plants late in the fall with one or two inches of prairie hay or stable litter (if free from weed seed). This covering should be removed from the plants in early spring and left between the rows until the fruit is picked; then it should be removed from the patch and the rows cultivated the same as before.

**Grapes**—These should be planted ten to twelve inches deep in holes large enough to admit roots without curling them, pressing soil solid about roots. Cut vines back to within three or four buds of the roots. Keep ground clean by cultivating; if impossible to cultivate, mulch. Prune in November before covering for winter. We regard covering as profitable and in most sections as essential. Use coarse hay or dirt in covering.

**Asparagus**—Prepare ground by deep plowing or spading. Set plants twelve to eighteen inches each way, three inches deep, with roots well spread out. Every fall mulch the bed well with manure.

**Rhubarb**—Prepare ground as for asparagus. Set plants with crown or eye two inches under ground. Plant three feet apart each way. Mulch in winter. Give clean cultivation the same as for any other crop.

#### SHRUBS.

If planted in beds or groups the ground should be spaded deeply and well worked. If shrubs are set as individual specimens they should be planted the same as trees.

Set shrubs at the same depth as they stood in the nursery row, or with their crowns at about the surface of the ground. Water the plants well during the hot, dry weather and keep the ground well stirred around them. Most shrubs require judicious pruning at planting time, and subsequently. Remove dead wood and weak shoots from the inside of the shrub, and shorten in the branches that have made undesirable growth. When shrubs are planted it is advisable to cut them back from one-third to one-half.

#### HEDGES.

**Privet**—Dig trench twelve inches deep or



Apple Plum Cherry Peach  
Showing How to Trim Trees When Planted; Upper Before and Lower After Trimming. Very Important.

branches, but do not cut these back. These limbs will form the permanent framework for the top and subsequent growth may be pruned to meet the requirements or taste of the planter.

#### SMALL FRUITS.

**Gooseberries and Currants**—Prepare the ground by deep plowing or spading. Cut the plants back fully one-half. Plant four feet

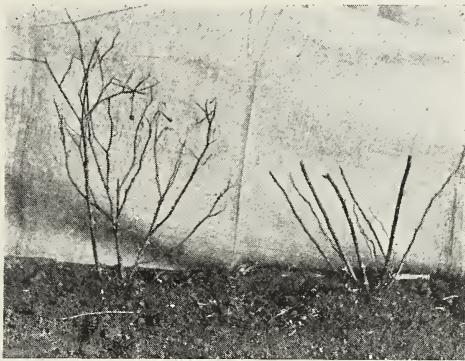


more and set the plants four to six inches deeper than they stood in the nursery row, or deep enough so the lower branches will be four to six inches under the ground. Such deep planting will make a compact hedge down to the ground line, but if the plants are set shallow there will always be undesirable open spaces at the base of the hedge. Some planters set privet in a double row, eight to ten inches apart each way, which makes a very dense hedge. Cut privet back one-half to two-thirds when planting to promote thick, new growth at lower part of plant.

**Barberry**—Should be planted in the same manner as shrubs, either in trenches for hedge or as groups or individual specimens. The natural growth of barberry is very desirable and we do not recommend that it be trimmed when set as a hedge, although it will thrive well if trimmed into formal shapes.

#### ROSES.

If roses are planted in the ordinary way with the tops left exposed to the sun and drying winds of the spring they are almost sure to shrivel before time for them to grow, and thus the plants are greatly endangered, while if the following suggestions are followed success is almost certain. The plants should be unpacked as soon as received from the nur-



Rose Bushes Just Planted—Before and After Trimming.

sery and planted, if possible. If unable to plant them immediately upon receiving them they should be heeled-in deep (buried) in moist, loose earth, waiting time to plant. In planting they should be set two or three inches deeper than they stood in the nursery in well-prepared, damp soil, but not wet enough to be muddy. If the soil is dry it is well to plant the roses solidly, then wet thoroughly, and after the water has soaked away throw up a

small mound of earth five or six inches high around the plant. Then cut off the branches about one inch above the mound, leaving it this way for ten days or two weeks, or until the buds start and show a desire to grow, when the dirt mound can be raked down. Roses handled in this way hardly ever fail to make a good start and a very satisfactory growth.

#### BULBS AND ROOTS.

Prepare the ground by deep spading twelve to eighteen inches, and work it into a well pulverized condition.

**Peonies**—Should be set with the crown two to three inches below the surface of the ground. Plant two feet apart. Mulch heavily after the ground is frozen and remove mulch in the spring.

**Iris**—Should be set with the crown two inches below the surface. Plant eighteen inches apart. Mulch as for peonies.

**Phlox**—Set the crown one inch under the surface and spread out the roots. Firm well. Mulch in winter. Water in summer. Plant twenty inches apart.

#### SHADE TREES.

**Ornamentals**—Dig holes large enough to accommodate all roots without bending or cramping. Fill the hole with good top dirt and firm it hard. When the hole is three-fourths full allow a bucket or more of water to seep away around the roots, after which the hole may be entirely filled. It is well to mulch the tree immediately to prevent drying out. Prune all limbs back to five or seven good buds, even though the appearance of the tree is impaired by such treatment. Water trees during the summer months and give them plenty of attention until they have become well established. Large sizes of shade trees can often be staked to advantage until their roots have obtained good anchorage in the soil.

**Evergreens**—These should be planted extremely solid, but be sure that all vacancies under the pronged roots are well filled with soil first, then press or tamp the soil so solid that the tree cannot be easily pulled up, leaving two inches of the soil loose to prevent baking and to take in the rainfall. Be careful never to expose the roots to the sun and air long enough to dry them in the least, and if necessary to water them it is better to dig a hole by the side of the tree one foot deep and water them through the hole. This applies to the watering of all trees. Better to water two or three pailfuls at a time through the hole at the side of the tree once in seven or eight days, as needed, than to pour water on the surface, which often does more harm than good by crusting the surface and attracting the roots upward for moisture, instead of downward. Mulch with old hay or chaff, throw a little soil on the mulching and it will look better and will be more effective. Evergreens should be watered during a drouth in mid-summer or fall as well as spring. The ground should be filled with water at the approach of winter and then be mulched. They do not need the above care after the first year.



# Fruit Department



## The Apple

The Apple is the first fruit, both in importance and general culture. No fruit is more in demand, more universally liked or more generally used. The earlier varieties ripen about the last of June, and the later sorts can be kept until that season. It is a fruit in perfection the entire year. Make a judicious selection of varieties, and a constant succession can be had the whole year.

Its uses are many and of inestimable value. It has been said that "fruit is nature's own remedy"; it is certainly nature's own preventive. Many diseases are not known to free users of a fruit or vegetable diet. There is no farm crop which, on the average, will produce one-fourth as much income per acre as will a good apple orchard.

We grow about fifteen varieties in large quantities, and advise beginners not to plant more than that many. However, we grow a limited supply of over 100 sorts, and therefore can supply anything in this book and many not listed. Those marked with an asterisk (\*) will give best satisfaction in Nebraska.

In every case ripening as given for the different kinds of fruits refers to the latitude of Nebraska.

## Summer Apples

✓ **Benoni.** Medium, red striped, one of the best of its season; tree upright; good bearer; blights some. August.

✓ **Chenango (Sherwood Favorite).** Fruit medium size, oblong, indistinctly ribbed; skin whitish, splashed and mottled with light and dark crimson; flesh white, tender, juicy, with a mild sub-acid flavor. A splendid quality, esteemed for the table, and so handsome as to make it a quick selling market variety. Tree vigorous but blights some while young, but easily outgrows this and lives to be an old tree; is a good annual bearer. August and September.

✓ **Early Cooper.** Very large, roundish, pale yellow with faint blush; flesh white, crisp, sprightly; a western apple; vigorous, not hardy in central and northern Nebraska. First of August.

✓ **Early Harvest.** Medium to large, roundish, bright straw color; flesh white, tender, juicy, crisp, with rich sub-acid flavor; tree moderately vigorous and productive. First of July.

✓ **Early Pennock.** Tree moderately hardy; very productive; fruit large, roundish, conical ribbed, light yellow, splashed, mottled and shaded with light red; sub acid, fairly good, core large. August.

✓ **Liveland (Liveland Raspberry).** A valuable new summer variety. Perfectly hardy; color orange-yellow, striped, splashed and shaded with red, showing gray dots through the color;

flesh light yellow often stained with red; fine, tender, juicy; core medium open. There is no apple east or west of better quality than Liveland. The tree is perfect and a good bearer; the fruit is handsomely colored.

✓ **Quince.** Large, yellow, ribbed, moderately hardy, productive. August and September. Specially good for cooking, where the quince flavor is liked by consumers.

✓ **\*Oldenburg (Duchess).** Fruit large striped, beautiful, quite juicy, mild sub-acid, or almost tart; tree a good bearer, with upright head, requiring little or no pruning; very hardy. Indispensable north and west, good south, and a favorite east. One of the best for culinary use, being particularly well adapted for cooking and drying. July and August.

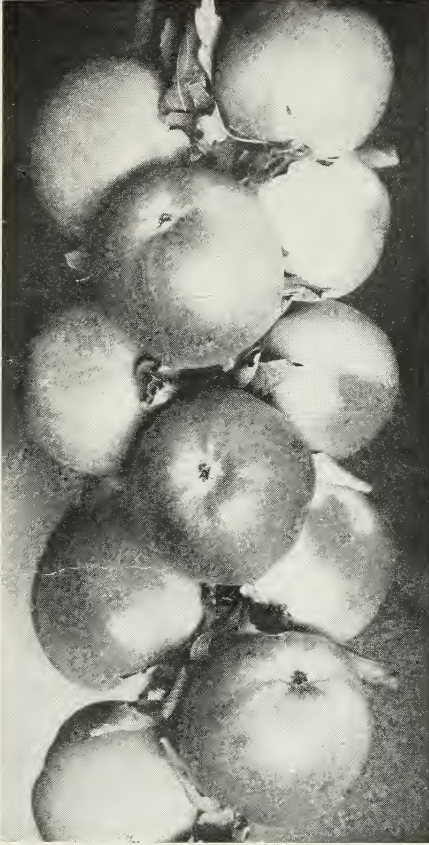
✓ **Red Astrachan.** Large, roundish, nearly covered with deep crimson, overspread with deep bloom; juicy, rich and beautiful; a moderate bearer; tree upright, spreading. July.

✓ **Red June.** Medium size, flesh white, tender, juicy, sub-acid; an abundant bearer; last of June. Tree moderately hardy.

✓ **Sweet June.** An excellent early sweet apple; pale greenish yellow, medium size, round; fine for table and cooking; tender; 25th of June to middle of July.

✓ **Tetofski.** The tree is an upright spreading grower, forming an open head; comes into bearing extremely early and bears every year;





Yellow Transparent.

blight some; fruit medium size, nearly round, whitish yellow beautifully striped with red. Flesh white, juicy, pleasant, acid, aromatic; fruit too small to be desirable; very slow in nursery. A dwarf tree. July.

\***Yellow Transparent.** Large pale waxen yellow, beautiful; quality excellent, an early and annual bearer. Tree is an upright, symmetrical grower, and needs very little pruning; it is perfectly hardy. Yellow Transparent is a good tree for Nebraska. July 15.

## Autumn Apples

**Bailey Sweet.** Fruit large, round, mottled and striped with deep red; flesh yellow and tender, with a mild, rich flavor; slow; blights some. September.

**Dyer.** Medium size, regularly formed, pale greenish yellow, faint blush, dark speck on one side, flesh white, very tender, juicy, good. August and September. Tree moderately hardy and very productive.

**Fall Stripe (Saxton).** An old variety which originated in Massachusetts or Connecticut. Tree vigorous, very productive, an early bearer. Juicy, tender, sub-acid, slightly aromatic; very good; medium to small size, covered with light and dark stripes; does well in Nebraska. September.

**Fall Winesap.** Origin unknown; tree a free, clean grower, moderately spreading, somewhat

drooping as the tree acquires age; fruit medium size; green with red blush; very good. September.

**Fameuse (Snow Apple).** Medium size, roundish, oblate; whitish ground, striped with red; flesh white, juicy and pleasant; tree blights. October and November.

**Flora Bell.** Fruit medium, oblate; yellow-shaded, splashed and mottled with crimson. Flesh whitish, mild, sub-acid, good. September.

**Fulton Strawberry.** Medium size, streaked, tender, juicy, fine, productive, desirable. August and September.

**Maiden Blush.** Rather large, oblate, sometimes ribbed, with a fine, evenly shaded red cheek or blush on a clear, pale yellow ground; flesh white, tender, sprightly, with a splendid sub-acid flavor. This variety has been underestimated for Nebraska. A good annual bearer. August and September.

**Porter.** Rather large, regular, oblong, tapering to the eye, skin bright yellow, sometimes a dull blush in the sun; flesh tender, rich, sub-acid; flavor fine; productive. September.

**Price Sweet.** Medium to large, inclined to oblong, greenish yellow, streaked and splashed with dull red; smooth and handsome and of very good quality. Tree a large and shapely grower, perfectly hardy and a splendid annual bearer. September.

**Rambo.** Medium, yellowish, streaked with dull red and somewhat dotted, mild, tender and good; not productive. September to November.

\***Ramsdell.** This old variety is esteemed wherever grown for the annual crops which it bears of large, handsome fruit, conical, splashed and striped with dark red; flesh very tender, mellow, unusually sweet and rich, excellent. Tree very vigorous and comes into bearing early. October to December.

**Warfield.** Originated in Muscatine, Iowa. Tree hardy and thrifty, vigorous grower, an early and abundant bearer. Fruit large, light waxen yellow with blush in the sun, sparkled with gray dots. The stem is slender, calix large and open, flesh white and moderately juicy; mild, good. September.

\***Wealthy.** Fruit large, variegated red; beautiful; full of lively, sub-acid juice; fine grained; splendid for eating; unsurpassed for cooking, drying or butter; a native of Minnesota; an early winter apple there, and one of their hardiest sorts; it is indispensable in the new Northwest; does remarkably through all the Central States and is a favorite wherever grown. Commences to bear young and is a heavy annual bearer. This variety should be in every orchard, family or commercial. September.

\***Utter.** Large, roundish, whitish red, very good quality, an excellent variety and a good bearer. One of our best fall apples. September to October. Perfectly hardy.

**Wolf River.** Very large and handsome; flesh whitish, breaking, pleasant; sub-acid. Fruit drops. September and October.

## Winter Apples

**Baldwin.** Large, roundish, deep bright red; juicy, crisp, sub-acid; good flavor; tree vigorous, upright; season November to December. Rather shy bearer and only moderately hardy in Nebraska.

\***Ben Davis.** Almost too well known to need a description. Large, smooth, often mottled





Wealthy (Reduced one-half).

and splashed, nearly covered with red; sub-acid; one of the most profitable market fruits. Tree remarkably healthy and vigorous, productive, and bears early. December to February.

**Arkansas (Mammoth Black Twig).** A seedling of the Winesap; large, dark red, handsome; quality good; tree hardy. December to March.

**Delicious.** Originated at Peru, Madison County, Iowa. Fruit medium to large, oblong and of the sheep-nose type. Color light green, shaded, splashed and mottled with light and dark crimson. Quality of the best for dessert. Keeps good. December to April.

**Domine (Well's English Red Streak).** Medium to large, skin greenish yellow; sometimes striped lightly with red; flesh very tender and pleasant; blights in Nebraska. December.

**Golden Russet.** Fruit medium size, very irregular, slightly conical; pale greenish yellow, about two-thirds white, firm and crisp, with pleasant, slightly sub-acid flavor; not profitable in prairie states. November to January.

**\*Gano (Reagan, Black Ben Davis).** Supposed to be a cross between Ben Davis and Jonathan; bright red, no stripes, polished beautifully, oblong, tapering, surface smooth, good. One of the best for Nebraska; flesh firm, mild, sub-acid; hardy; upright grower; tree resembles Ben Davis. This is the coming market apple, as its heavy annual crops of large, red, showy apples will render it very profitable. It should be in every orchard. December to April.

**Grimes (Grimes Golden).** An apple of the highest quality, equal to the Newton; medium to large size; yellow, productive. November to December.

**Ingram.** Seedling of Janet; is as good in every way and the fruit is much larger and better coloring, making it much more desirable. Perfectly hardy and a good bearer.

**Iowa Blush.** Medium in size, roundish, conical, whitish, with red cheek; quality fine, tart; tree vigorous and hardy on the prairies. November to January. A good tree for Nebraska.

**\*Isham.** Fruit large, oblong, conical, greenish yellow; striped with dull red. Beautiful, showy, good; tree is hardy and spreading. November to January.

**Jonathan.** Medium; red, beautiful, best quality; tree is slender. An early and abundant bearer; moderately hardy. November to February.

**Gilpin (Little Romanite).** Tree productive; fruit below medium size, roundish, oblong, skin very smooth and handsome, yellow streaked with red, sometimes becoming quite dark; flesh firm, rich, becoming tender in spring; good; vigorous. February to June.

**Mann.** An upright grower, forming a round head, fruit medium to large, skin deep yellow when fully ripe, with sometimes a shade of brownish red where exposed; pleasant, sub-acid. Not productive when young. March and April.

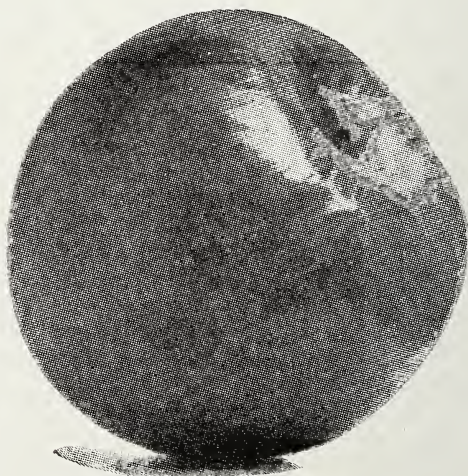
**Minkler.** Fruit medium, roundish oblate, slightly conical; pale greenish yellow, striped and splashed with two shades of red; flesh yellowish, compact, moderately juicy, mild, pleasant, sub-acid.

Tree irregular grower, very spreading. A rather shy bearer and only moderately hardy in Nebraska. January to April.

**Missouri (Missouri Pippin).** Medium size, oblong, bright red, with numerous gray dots, very handsome and of fair quality, an early and abundant bearer, and a very profitable orchard fruit; vigorous. December to March.

**\*Northwestern (Northwestern Greening).** Tree of Wisconsin origin; vigorous grower and considered very hardy in that section; fruit large, smooth and handsome, of a greenish yellow color. In favor wherever grown; a valuable variety. Indispensable north.

**Northern Spy.** Fruit large, striped and shaded with light and dark purplish crimson, and covered with a thin white bloom; tender, very juicy, a pleasant sub-acid. November and December. Shy bearer.



Arkansas Black Twig (Reduced one-half).





Delicious.

✓ **Perry Russet.** Above medium, yellowish green, partly covered with russet; quality good; tree hardy; very poor bearer.

✓ **Pewaukee.** Fruit very large, green, striped and splashed with red. Fruit drops from

**Rall's (Janet or Geniton).** Medium; has mixed and striped crimson on yellow and green; flavor is sub-acid, vinous and refreshing. Popular as a market fruit on account of its good quality and keeping qualities and abundant yields. The blossoms appear later than any other sort, and thus they sometimes escape spring frosts. February to April.

✓ **Roman Stem.** Fruit medium, whitish yellow, splashed with russet; flesh tender, juicy, rich musky flavor; fine dessert apple; moderately hardy. November and December.

✓ **Westfield (Seek-No-Further).** Medium to large; slightly russeted with dull red stripes, tender, rich, spicy and fine; good bearer; moderately hardy. October to January.

✓ **Sheriff (American Beauty).** Above medium, roundish, oblong, flattened at the ends, regular, nearly covered with light and dark red stripes and splashed with obscure dots; early bearer, productive, moderately hardy. November to February.

\***Salome.** Above medium in size, partly shaded and striped with dull red, beautiful, tender, mild, slightly aromatic; very good. December to

March. Its hardiness, long keeping, good quality, uniform size, will no doubt make it valuable for the West and Northwest. Perfectly hardy, and should be in every orchard.

✓ **Stayman Winesap.** Resembles Winesap, only larger and more striped. Tender, juicy, mild, sub-acid; splendid. Tree is a good grower, hardy and bears well as far as tested.

✓ **Tolman.** Medium, pale yellow, firm, rich and very sweet. October to December.

✓ **Virginia Beauty.** Fruit medium to large, handsome and regular in form, with very dark red color. Quality excellent, mild. Season September to January. Tree open and spreading, unshapely when young.

✓ **White Pearmain.** Medium, oblong, skin yellowish, sometimes bronzed, flesh yellow, with a pleasant sub-acid flavor; moderately hardy. January to April.

✓ **Willowtwig.** Large, roundish, greenish yellow, striped, early bearer and considered valuable in the South; profitable as a late keeper. January to May. Blights in Nebraska.

✓ **Winesap.** Medium, dark red, sub-acid, excellent, moderate bearer; a favorite family variety in the West; vigorous and hardy. November to

✓ April. A good one for Nebraska.

✓ **Windsor (Windsor Chief).** Medium to large; greenish yellow, suffused with red splashes, becoming quite red when ripe; gray dots, flesh pale yellow, sometimes streaked with red; fine grained, juicy, sub-acid, quality excellent. Tree



Gano (Reduced one-third).

an upright, moderate grower, becoming stronger as it attains age. Early annual bearer; very prolific. Winter. Originated in Wisconsin. The highest award was won at the Paris Exposition from apples of this variety, which were grown in our orchards near Arlington.

**Walbridge.** Medium size, striped with red, good cooking; vigorous grower and productive; very hardy and considered of value in the North and Northwest. December to January.

**Winter Paradise.** Rather large, roundish, skin pale greenish yellow with brown tinge; flesh white, very good flavor, and sweet; tree upright, bears well; fruit inclined to drop prematurely on some soils. December to January. Hardy in Nebraska.

**York Imperial.** Medium, oblate, white, shaded with crimson; flesh firm, crisp, juicy and sub-acid; a good bearer and keeper; one of the best winter apples; moderately hardy. November to April.

## Crab Apples

Within the past few years much attention has been given to improving this class of fruit, because of their adaptability to cold sections, where only a few varieties of apples can be successfully grown. These efforts have been attended with marked success. Crab Apples succeed equally well in all sections, and are valuable for cider, preserving, jelly, ornament, and some of the improved sorts are excellent for eating. Sent to the Eastern markets they command a very high price.

**\*Florence.** Fruit waxen, yellow and red, medium size, very handsome and good quality. Tree perfectly hardy; is an early and annual bearer. We consider it one of the very best varieties to plant. Originated in Minnesota.

**Hyslop.** Large, dark red, sub-acid; bears its fruit in clusters; good eating and cooking; very hardy; very popular. When over-ripe becomes "floury." September.

**Large Red (Siberian).** Large, pale red and yellow; good quality, large tree, with coarse foliage; early bearer, fruit much larger than the common Siberian.

**Martha.** A seedling of the Duchess of Oldenburg; large, striped, very beautiful; shy bearer. September.

**Montreal.** One of the most beautiful of the crabs; fruit large, bright yellow, shaded with red; flesh yellowish, firm, acid; tree a free grower. September.

**Shields.** Originated in Wisconsin; tree is large, shapely, beautiful, perfectly hardy and a good bearer; fruit large; yellow striped and splashed with red. Splendid quality. Don't overlook this variety.

**Sylvan.** Tree slender, upright, light colored wood, fruit large, pale yellow, with rich blush; flesh white, tender, very good and beautiful. July.

**Transcendent.** Yellow, striped with red; good eating; fine for preserving or pickling; good for cooking; makes good cider; immensely productive, very early bearer. Blights to death in Nebraska.

**\*Whitney.** One of the largest, glossy green, splashed with carmine; firm, juicy, best quality. an ironclad; a great bearer. Ripens in August.



Shield's Crab Apple.

Makes a fine white cider. Fine for preserves.

**Yellow Siberian.** Medium size, good quality; tree hardy. Excellent for pickling.



## Pears

Pear growing, at one time, was considered a failure in Nebraska. With better knowledge of varieties and culture, pears are succeeding to such a degree that considerable commercial planting has been done in eastern Nebraska of recent years. We have faith in a carefully selected list of pears when properly cared for. Plant only two or three varieties; try to get well ripened growth, give only fair cultivation. Be content with an annual growth of from twelve to eighteen inches. Rank late growth is often the cause of disease. Plant four or five inches deeper than stood in nursery.

**Bartlett.** Large size, with often a beautiful blush to the sun; buttery, very juicy and high flavored, bears early and abundantly. Very popular. Blights with us. August.

**\*Birkett.** We can see no difference between this and the Sudduth. A strong growing, beautiful tree; blight-proof and hardy. Fruit medium in size and quality; a good bearer.

**Clapp Favorite.** Very large, yellowish green to full yellow when ripe, marbled with dull red in the sun, and covered with small russet specks, vinous, melting and rich, vigorous. July.

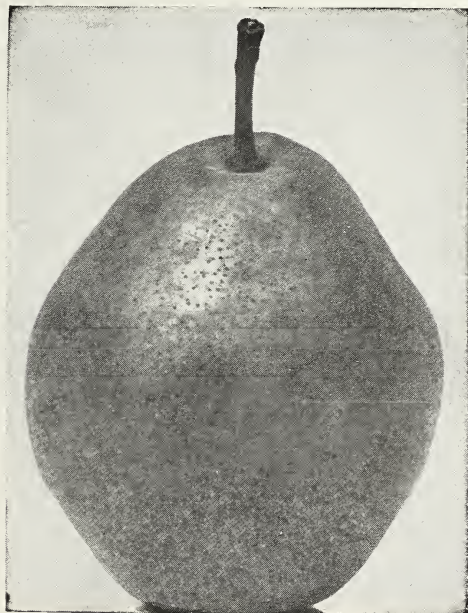
**\*Flemish.** Large, red cheeked, beautiful, excellent quality, productive; one of the hardiest; very popular in the West.

**\*Kieffer.** This pear was raised from seed of the Chinese Sand Pear, accidentally crossed with the Bartlett or some other kind grown near it. Tree has large, dark green glossy leaves, and is of itself very ornamental; an early and annual bearer; the fruit is showy and valuable for the table and market, and never rots at the core, and is as nearly blight-proof as is possible. October and November.

**Seckel.** Small, but of the highest flavor; a standard of excellence; a slow grower, but bears early. Ripens last of August. Productive.

**\*Sheldon.** Large, plump and round; russeted; is handsome and good; one of the most reliable for Nebraska.

**Louise (L. B. De Jersey).** Rather large, green-yellow, with a bright red cheek; juicy, buttery and melting, excellent; very productive as dwarf only. August and September.



Kieffer.

**\*Angouleme (Duchess).** Is very large, dull greenish yellow, streaked and spotted with russet. Flesh white, buttery and very juicy, rich, very excellent flavor. This variety and Louise, when grown as dwarfs, are more profitable than standard sorts. Bear at two years from planting. These varieties have borne eleven crops in the last fourteen years in our orchards.

### Dwarf Pear Trees

The pear is one fruit that can be grown profitable as a dwarf tree. It differs from a standard tree in that it is grafted on a quince root. This retards its growth and makes a dwarf tree. This slower growth makes it more resistant to blight and other pear tree troubles than the standards, which grow more rapidly. It also causes the tree to bear earlier; some times producing fruit the second year, and often quite heavily the third and fourth years after planting. They may be planted much closer (10 to 15 feet apart), than the standards, which makes them very desirable for city planting and for a limited space on home grounds. The Louise and Angouleme are the best suited varieties for dwarfing. See descriptions of these varieties above. A few dwarf pear trees should be in every home orchard or garden in the middle west.





Montmorency.

## Cherries

A great deal of attention is now given to the growing of cherries. No home orchard is complete without its proportion of cherry trees, and it is one of the most profitable of market fruits. It will succeed on any kind of soil that is not wet.

The Heart and Bigarreau varieties are not very much of a success in the West and Northwest; but the Dukes, Morellos, and especially the light juiced varieties of the acid cherries succeed everywhere. After testing on our own grounds every variety recommended by the Iowa Experiment Station and several specialists, we have reduced the number to these described in this catalog, and believe, generally speaking, Early Richmond to be the best of these, with Montmorency second.

**Baldwin.** Tree an upright, vigorous grower, forming a roundish head. Fruit large, almost round, very dark, flavor slightly acid, yet one of the sweetest of the Morello type. A promising cherry.

**Dyehouse.** This variety is very much like Early Richmond; a little earlier, not quite as large; splendid quality; but not as productive.

**\*Richmond.** Medium, red, fine when well ripened. Tree hardy and very productive. This variety has been most widely planted and given the best general satisfaction of any cherry yet introduced. A good tree to plant.

**May Duke.** This is the most popular of all the Dukes and is doing well here. An upright, beautiful grower and bears well. Fruit large, oblate, dark red, sweet; best quality. Is not affected by the leaf rust so destructive in wet weather.

**Morello.** Medium to large; is blackish red, rich acid, juicy and good; very productive. July. Should be on every farm in the West.

**\*Montmorency.** Large, red, acid; larger than Early Richmond and ten days later; prolific and perfectly hardy and indispensable in the higher altitudes. Quality the very best. This variety should not be overlooked.

**Terry.** Fruit large, light, brilliant red; becoming darker as it gets riper. The stem is so long that it can be picked from the tree without bruising the fruit. Tree upright, handsome, a fine grower; hardy and very productive. This is one of the coming cherries for the prairies.

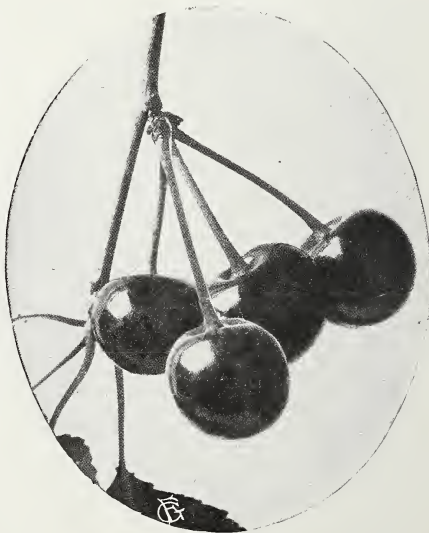
**Osthelm.** Hardy, productive and vigorous; Morello type. Fruit dark and rich.

**Late Richmond (Late Kentish).** Fruit medium, round, deep red when ripe; very juicy, highly acid; one of the best for culinary purposes; poor bearer.

**Wragg.** Same as Morello.

## Compass Cherry-Plum

**\*Compass Cherry-Plum.** Originated at Springfield, Minnesota, by M. H. Knudson, through scientific hybridization by applying pollen of the English Morello Cherry and Miner Plum to the blossom of the Sand Cherry (*Prunus Besseyi*). It is absolutely hardy, wonderfully prolific, frequently producing fruit on young trees in nursery row. In shape, size and coloring of the fruit the characteristics of the Plum and Cherry are about equally divided.



Early Richmond.



# Plums

The best of our natives by careful selection and cultivation are today the most desirable varieties for the planters of the prairie states. They are perfectly hardy, able to stand our climate, and it is from these we must expect our profitable crops of this fine fruit. The plum delights in a cool, not too dry situation, with good, rich soil. The varieties we offer have been thoroughly tested, and are the standbys of the West. These, with the best descendants of the European plums, may be relied upon to furnish yearly crops of this most highly profitable and delicious fruit.

## American

**DeSoto.** Medium size, yellow with red cheek; fine for eating or canning; flesh yellow and rich; moderate grower; bears young and profusely; hardy and very desirable. August.

**Forest Garden.** Medium size, early variety, of good quality; nearly round; mottled red and yellow; sweet and rich; a strong grower. August.

**Hawkeye.** Very large, dark red, handsome, rich and good. Tree a moderate grower with broad shining leaves; hardy and profitable. August.

**\*Larson.** Originated by Mr. Larson of Washington County, Nebraska; grown from seed brought from Denmark. Fruit very large; dull bluish red; handsome and of the best quality. Tree perfectly hardy; very productive. One of the best plums for Nebraska. July.

**Miner.** Large, red, firm flesh, excellent for canning or cooking; profitable market sort; one of the best if properly fertilized. Tree perfectly hardy.

**Pottawattamie.** Small to medium size, yellowish red, luscious, moderately hardy; early and immense bearer; ripens in July. Good for canning.

**Stoddard.** Largest American plum known. It is pure American, but shows strong markings of the Japanese type in leaf and fruit. The tree is a good, stout grower, beautiful enough for the lawn; an early bearer and perfectly hardy. August.

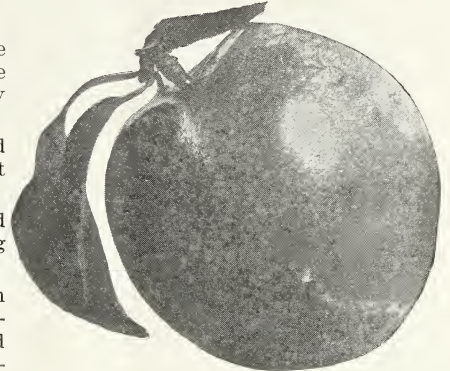
**\*Wyant.** Large, round, oblong, purple-red, thick skin, which peels readily; flesh firm; a perfect freestone and of excellent quality. Should be more generally planted. Native of Iowa and hardy. August.

**Wild Goose.** The earliest good plum; large, bright red, with purplish bloom, a very good grower; bears early and abundantly; sweet and of very good quality. July.

**\*Wolf.** Large, dark red; good quality. Extra fine for cooking and canning. It is a vigorous grower, entirely hardy, and an abundant bearer; one of the very best. August.

## European

While the European plum is not entirely hardy, still it begins to bear early and bears well for a moderate length of time, and fruit of the best quality, as it matures perfectly and does not rot on the trees as in the East. Please remember the "star" varieties will be found the most reliable.



Larson Plum.

**Arctic.** Medium, purplish black; juicy and sweet; moderately hardy. August.

**\*Lombard.** Large, greenish blue, flesh yellowish green; juicy and pleasant. Ripens in August; tree vigorous; one of the most widely cultivated plums of America. A good annual bearer.

**Pride.** Large, nearly round; dark purple, quite juicy, sweet; splendid shipper, profitable for market. Growth moderate, productive. Originated in northwestern New York. Season medium.

**Green Gage.** Medium size, oval, suture distinct, surface green, slightly tinged with yellow; flesh greenish, juicy, melting, rich, partly free; very good. Tree vigorous, upright; one of the hardiest of the Europeans.

**Bohemian (Prune).** A hardy tree; an early, continuous bearer. Fruit of medium size, prune shaped, blue, freestone; much better than German Prune.

## Japan Varieties

**Burbank.** Large, nearly round, cherry red, with thin Lilac bloom; flesh deep yellow, very sweet, of good quality; very handsome; about three weeks later than Abundance. Tree a vigorous grower and early bearer. The best oriental.

**Abundance.** Large, oblong, showy; bright red fruit, with a heavy bloom; flesh orange yellow, sweet, juicy. Tree a strong, handsome, thrifty grower. Commences to bear young. One of the first varieties imported, and the best known and most popular kind. Season early.

## New Hybrid Plums

**\*Burwood.** A valuable new plum, originated by the late Theodore Williams of Benson, Neb. Supposed to be a cross between the Burbank and Brittlewood. The flavor is excellent; meat is solid and pit small. Highly recommended.

**America.** This is one of the best of the creations of Mr. Burbank for territory east of the Rocky Mountains. America is as beautiful as a plum can be, and one of the most dependable; large, glossy, coral red, almost proof against rot and insect attack.

**\*Hanska.** Originated by Prof. N. E. Hansen, Professor of Horticulture in the South Dakota College of Agriculture, and Agricultural Explorer for the United States Department of Agriculture.

The female parent is a seedling of our wild northwestern plum (*Prunus Americana*); the male parent is the large, firm-fleshed, fragrant, apricot-plum of China (*Prunus Simoni*), popular in the orchards of California.

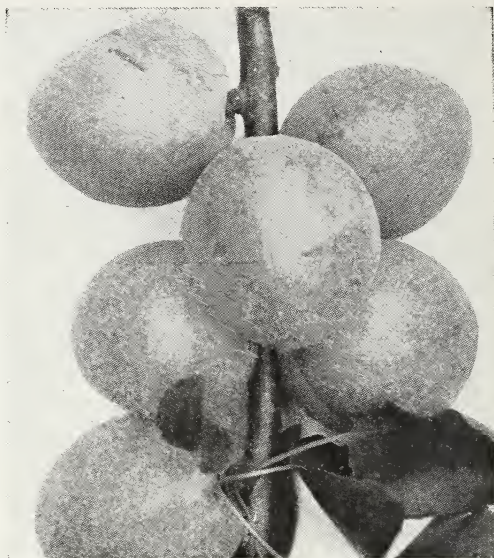
Hanska is Sioux Indian for "tall," alluding to the extremely rapid growth in nursery and orchard. Three-year-old trees attain a height of twelve feet. First introduced in the spring of 1908.

The fruit of this variety is much admired for its beautiful color, which is bright red, with heavy blue bloom, firm yellow flesh, good quality and rich fragrance. The fruit is one and one-half inches to one and nine-sixteenths inches in diameter, often larger. When cooked, the apricot flavor is brought out to perfection, entirely unlike any native plum. The flat shape also distinguishes it from all the other hardy plums in the Northwest.

The Hanska has been known to bear heavy crops when native plums were almost a total failure. Begins to bear at two years. Very small pit. Exceedingly hardy and vigorous.

**Sapa.** Another of Prof. Hansen's creations. The female parent is one of our selected seedlings of the western sand cherry (*Prunus Besseyi*), a favorite fruit of the Sioux Indians; the male parent a very large, purple-fleshed Japanese plum originated by Luther Burbank of California, and by him named the Sultan. The Sultan is a plum of the Satsuma type and is perhaps a cross with some other species.

Tree extra hardy, an extremely early bearer; one year old trees in nursery row have many fruit buds. Fruit medium, glossy dark purple skin; flesh rich, dark purplish-red, fine flavor. Sapa Plums raised at Brookings, S. Dak., were  $1\frac{3}{8}$  inches in diameter, weight  $\frac{5}{8}$  ounce, on one year old trees set the preceding year and bearing a heavy crop. Season very early.



Alexis

## Apricots

**Alexis.** Large to very large, with red cheek. The fruit is slightly acid, but is rich and luscious. The tree is a hardy and abundant bearer. July 15th.

**Budd.** Large size; white, with red cheek; flavor sweet, juicy, extra fine; a hardy, strong grower and profuse bearer; the best late variety. August 1st.



Burwood.





## Peaches

The north part of Nebraska is not a peach country, and it is only by painstaking care that we grow even a limited supply of the better class. The peach prefers a well drained loam. We recommend the following sorts, which we think hardy enough to stand without protection in the southern half of Nebraska. Please remember the "star" (\*) sorts will do best in the greater part of the state.

\***Alexander.** Size medium to large, handsome and regular in form, with deep maroon shade, covered with the richest tint of crimson; fair in quality, with a vinous flavor; adheres to the stone; should remain on the tree until fully ripe. The earliest peach.

\***Bailey.** An Iowa seedling. Tree dwarfish, spreading willowy habit; peach is slightly below medium size, light yellow, splashed with red on sunny side, flesh white, best quality, small pit, profuse bearer; has proven to be much hardier than any of the old varieties. Worthy of a trial. Season September.

\***Champion.** Originated in Illinois; fruit is large, beautiful in appearance; flavor delicious, sweet, rich and juicy; skin is creamy white, with red cheek, becoming quite red when ripe. Freestone; season last of August. Tree vigorous. One of the very hardiest and best varieties for Nebraska.

**Crosby.** Medium, rich orange yellow, with blush; freestone, pit small, flesh yellow, juicy and sweet; tree low, spreading, willowy; perfectly hardy in a peach country. Season August.

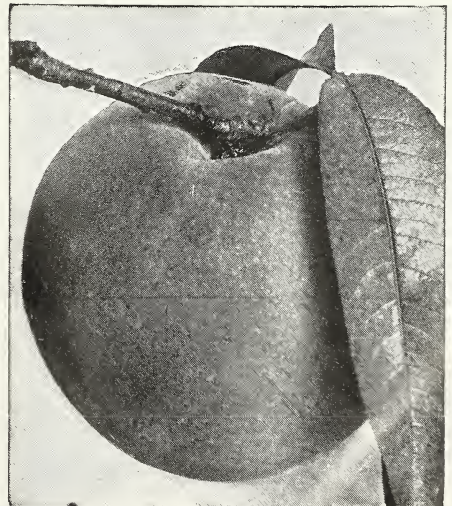
**Elberta.** Large, yellow, with red cheek; excellent quality; flesh yellow and melting; freestone; not so hardy as above. September.

**Early Rivers.** Large, light straw color, with delicate pink cheeks; flesh juicy and melting, with very rich flavor. July 20 to August 1.

**Hale Early.** Fruit medium size, skin clean, smooth, white, delicately marbled with bright and dark red on the sunny side; flesh very melting, juicy and high flavored. July 20 to August 1.

**Chili.** One of the most reliable and hardy, fruit above the average size; quality good. Season medium.

**Russell.** Originated by Mr. J. M. Russell at Wymore, Neb. Fruit large, handsome and very attractive in appearance. Whitish yellow, partly covered with a rich maroon; quality good. Freestone. Very productive. Season last of August.



Champion.



\***Triumph.** Large, yellow, overspread with red. One of the hardiest and most productive. July 20 to August 10.

\***Whitford.** Originated by C. A. Whitford of Arlington, Neb., and is one of the best free-stone peach for Nebraska that we know of. A rich golden yellow, sometimes slightly blushed; quality rich and delicious; a reliable bearer and as hardy as Wright's or Bailey. Season September.

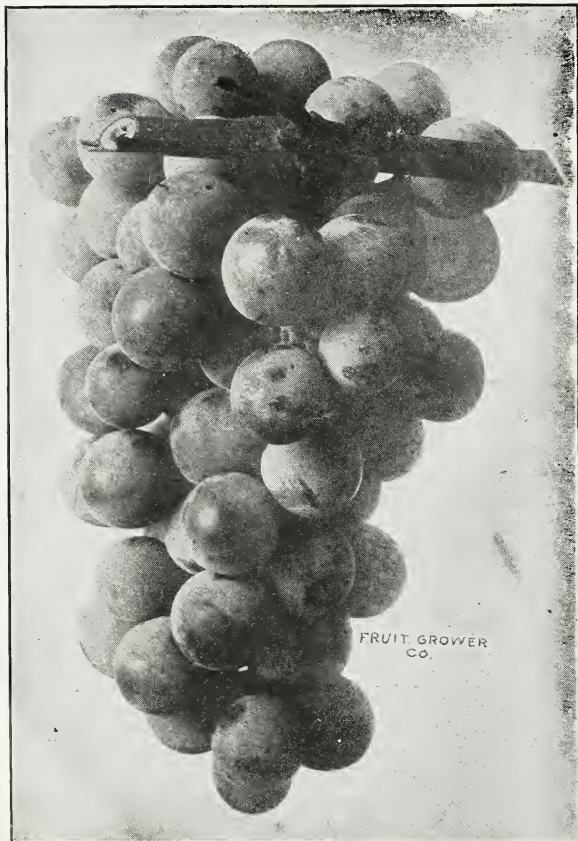
\***Wright.** Originated in Nebraska. Similar to Bailey. A good one for Nebraska. Season September.

## Grapes

Everyone may have an abundance of this healthful fruit. The grape is at home in the West. In our deep soils, bright sun and dry atmosphere, it attains its highest perfection. There is scarcely a yard so small, either in city or country, that room for a dozen or more vines cannot be found, furnishing an abundance for family use. To grow grapes successfully, plant in high, dry soil.

### Black Grapes

\***Concord.** Bunches large, berries large, round; skin thick and covered with bloom; flesh juicy, sweet. Vine very hardy, vigorous and productive; at present the most popular of all our native sorts.



Concord.



Whitford.

\***Clinton.** Bunches medium size, compact, shouldered, berries small, flesh acid, vinous flavor. Vines hardy, vigorous, productive; fruit improves by hanging on the vine, resembles the wild grape in both vine and fruit.

\***Herbert.** Bunch large, compact, berry large, tender, sweet and rich, early and productive; a handsome variety.

\***Moore.** A large, black grape of the Concord type, the entire crop ripening before the Concord; bunch medium, berries large with blue bloom; flesh pulpy, of good quality. Vine is hardy, moderately productive, better as it attains age. Planted extensively as a market sort.

\***Worden.** This variety is a seedling of Concord, which it greatly resembles in appearance and flavor, but the berries are larger, the fruit is better flavored and ripens several days earlier.

\***Campbell.** Bunches medium to large, berries large, glossy, black with a beautiful blue bloom. Pulp sweet and juicy. Good. Seeds small and few in number. Season ten days earlier than Concord. New and promising.

### Red Grapes

\***Agawan.** Vigorous grower, not sufficiently tested to recommend for general planting. Large, round, with rich, peculiar aromatic flavor; very desirable; should be covered in winter.

\***Brighton.** A cross between Concord and Diana Hamburg; bunches large, berries of medium size, flesh sweet, tender and of the highest quality; ripens early; dark red, when fully ripe almost purple.





Pocklington.

**Delaware.** Still holds its own as one of the finest grapes; bunches small, compact, shouldered; berries rather small, round; skin thin; flesh very juicy, without any hard pulp; an exceedingly sweet, spicy and delicious flavor; vines moderately vigorous; very productive; should be covered in winter.

**McPike.** Originated in southern Illinois. Has taken premium at many state fairs. Is a seedling of the Worden; a little earlier than the Concord. Bunches large, even and compact. Berries large and covered with a blue black bloom.

**Wyoming.** A very early, medium size, red variety; bunch small, but compact; skin bright red; sweet; very agreeable were it not for the slight foxy odor apparent when first gathered.

## White Grapes

**Elvira.** A very strong, robust and healthy grower; very productive; bunch and berries of medium size and very compact; quality medium. September.

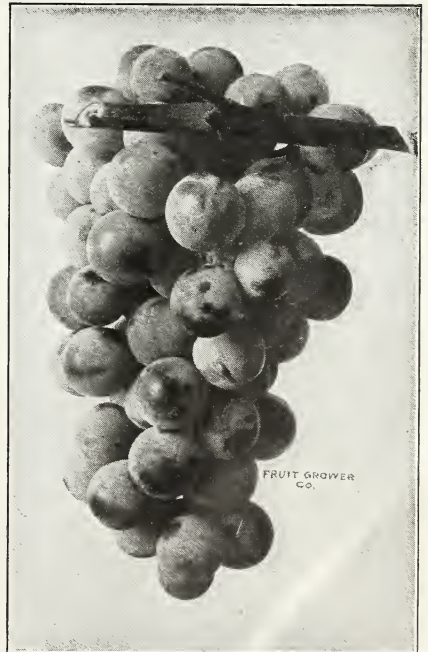
**Empire State.** A seedling from Hartford Prolific, fertilized with the Clinton; bunches large, long, shouldered; berry medium to large; flesh tender, juicy and rich, with a slight native aroma; ripens very early and continues a long time in use; should be covered in winter.

**Diamond.** Very hardy, early and vigorous; productive and splendid quality. Ripens two weeks earlier than Concord.

**\*Pocklington.** Is a seedling of the Concord; vine hardy, both in wood and foliage; strong grower; called a white grape, but the fruit is a golden yellow; clear, juicy and sweet to the center, with little or no pulp; bunches very large, sometimes shouldered; berries round, very large, and thickly set; quality, when fully

ripe, sweet and richly flavored; perfectly hardy.

**Niagara.** Clusters large and handsome, compactly filled with large berries, having a thin but tough skin. When fully ripe they are a fine pale yellow, with a thin white bloom, and the foxy aroma of an earlier stage has almost disappeared; the flesh is slightly pulpy, tender, sweet and delightful. Vine is fairly vigorous and productive. Ripens with Concord.



Moore (Reduced one-half).

## Mulberry

**Russian.** Valuable for hedges and windbreaks around orchards and fruit plantations, as it bears every year, ripening constantly nearly all summer, thus feeding the birds. A necessity. Makes a rapid growth and is considered very good for posts.

**Downing (Downing's Everbearing).** Color, blue black; flesh juicy, rich, sugary, with a sprightly vinous flavor; tree ornamental as well as fruitful. Not quite hardy in Nebraska.

## Juneberry

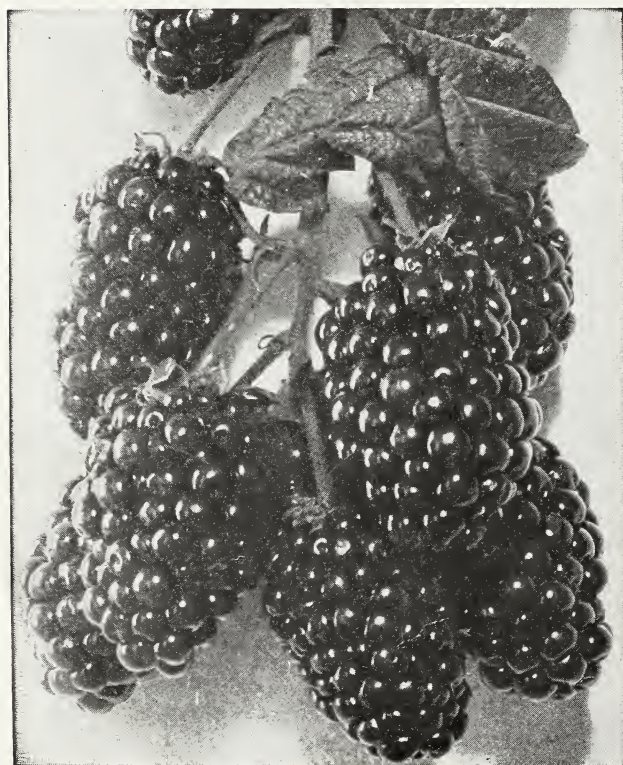
**Dwarf.** Grows four to six feet high; bunches out from the ground like currants; resembles the common Servis or Juneberry in leaf and fruit, but the fruit is larger, and in color almost black; commences to bear the second year after transplanting, and bears profusely. No farm or garden should be without this most excellent dessert.

## Nut Trees

**Black Walnut.** This is the most valuable of all our timber trees for planting; a moderate grower; perfectly hardy, producing a large nut. The timber enters more largely into the manufacture of furniture and cabinetware than almost any other, and is prized almost with mahogany.

**Chestnut (American).** Out native species; smaller than the Spanish, but sweeter; moderately hardy.

**Butternut (White Walnut).** A fine native tree, producing large, longish nut, which is prized for its sweet, oily, nutritious kernel.



Snyder.

## Blackberries

Plant in rich soil and a little shade, among trees, or on north side of trees or fence, if possible.

Of all varieties tested, the Snyder has proven the hardiest, and Stone's Hardy second.

✓ **Stone.** It is a vigorous grower; berry glossy black and of good flavor; a little later than Snyder.

✓ **\*Snyder.** Medium in size, sweet and good, strong grower; very productive; extremely hardy; has fully proven its value. After all the experience we have had with blackberries we are thoroughly convinced that this is the berry for the West and Northwest. Should be universally planted.

**Dewberry (Lucretia).** This is the finest of its class; one that has proven successful; a strong grower. It is really a new trailing blackberry, easily protected in winter. Set the plants two feet apart in the row; cover in winter with coarse litter and mulch the plants with it in the spring, thus keeping them off the ground.





St. Regis.

## Raspberries

The raspberry is one of the most delicious and popular fruits grown. They are always in demand in season and command good prices on the market. For canning purposes they are unexcelled. They are easily cultivated and require little care. Cut out the old and weak shoots each year; plant in good soils in hills about four feet apart. With a little care and attention they will produce large crops of berries.

### The Everbearing Raspberry—St. Regis

It bears the first season. One of the greatest raspberries ever introduced. Plants of the St. Regis put out in early part of April gave ripe berries on the 20th of June. For four weeks thereafter the yield was heavy and the canes continued to produce ripe fruit without intermission until late October.

The berries were large and beautiful, firm and full flavored, to the very last. The St. Regis is the only raspberry, as far as known, that is practically sure to produce a crop of fruit the season planted. Awarded the

highest certificate of merit by the American Institute of New York.

## Black Raspberries

**\*Cumberland.** Berries very large and even in size; bears very abundantly; ripens between the Kansas and Gregg. Strong grower and one of the hardiest. The best all-around black raspberry known.

**Gregg.** A good late black cap and popular variety. Canes of strong, vigorous growth, and under good culture very productive; berries are large and of a fine flavor; it requires a good, strong soil to produce the best results; it is not entirely hardy, but suffers during unusually severe winters.

**Kansas.** Originated in Lawrence, Kansas. It is healthy, vigorous and not subject to leaf blight; fruit large; as fine a berry as Gregg, and a good shipper; ripening season medium; very prolific.

**\*Nemaha.** The best late black cap. This fine berry originated in Nemaha County, Nebraska—a seedling of the Gregg, and is almost identical; fruit a little later and of better quality; and is harder than the parent; thus a better berry for general planting.

**Older.** Originated in Iowa and has stood all our severest winters remarkably; about as large as Gregg, and five days earlier; splendid quality, but too soft to ship.



Cumberland



\***Palmer.** Earliest of all; has borne more quarts per acre on our grounds than any other variety; the canes are hardy and berries of good quality.

## Red Raspberries

\***Cardinal.** A very valuable cross between the red and the black. Thrifty and productive;

quality good. It is by far the best of the crosses yet introduced.

**Loudon.** The hardiest and most productive of the red varieties, very large and of the best quality.

**Turner.** A beautiful berry, of fine size and excellent quality; one of the hardiest and most reliable varieties known.

## Strawberries

The strawberry has been styled the queen of fruits. It is the first to ripen and the quickest to come into bearing. Can be successfully grown on a great variety of soils; responds readily to kindly location and liberal feeding and culture. Every home builder who fails to have an abundance of this delicious health-giving fruit misses a chance of great things for little money. The strawberry prefers a cool, moist soil. Not subject to severe drouth; good upland soil is the best, well enriched. Spring planting is best.

Of the hundreds of varieties that have been introduced we offer only a small number of the best, all of which will thrive under any ordinary care. Be sure to note (\*) varieties, as we believe these two (Warfield and Dunlap), when planted together, will give the planter more real satisfaction and better value than any other two varieties of standards.

**Bederwood.** This has been well tested all over the country, and holds first place as a good fertilizer for most pistillates, and one of the best bearers of excellent fruit of good size and quality; will stand an unusual amount of drouth; commences ripening early and lasts a long time.

**Crescent (Imperfect).** The lazy man's berry. This is an old standard variety we have had for many years. We gathered reasonable crops of Crescent and Bederwood from a patch planted ten years before; the only care taken of them was the weeds and grass were kept mowed down.



Dunlap

\***Dunlap.** Originated in Illinois and is of the Warfield type. One of the best all around varieties ever introduced; has a perfect blossom, is hardy and productive; is able to hold its own under any rough and tumble treatment, bringing every berry to maturity, and is the nearest perfect in every respect of any berry we know of. We believe it to be one of the greatest berries ever introduced.

**Gandy (Perfect).** One of the late varieties which has proven itself valuable; very large and of a dark red color. Flavor is good.

**Sample (Imp).** Extremely productive when planted with Dunlap or some other staminate variety; perfectly hardy and stands drouth well; fruit firm, medium to large, bright red and of a polished appearance; very good; one that can be relied upon.

\***Warfield (Imp.).** We place this at the head of the list of valuable berries, excepting the Dunlap, because after being well tested over about every state in the Union it is considered one of the best berries grown, all things considered, that go to make a profitable berry. The Warfield, when planted with Dunlap as a fertilizer, will produce more good, marketable fruit on our grounds than any other we can now name.



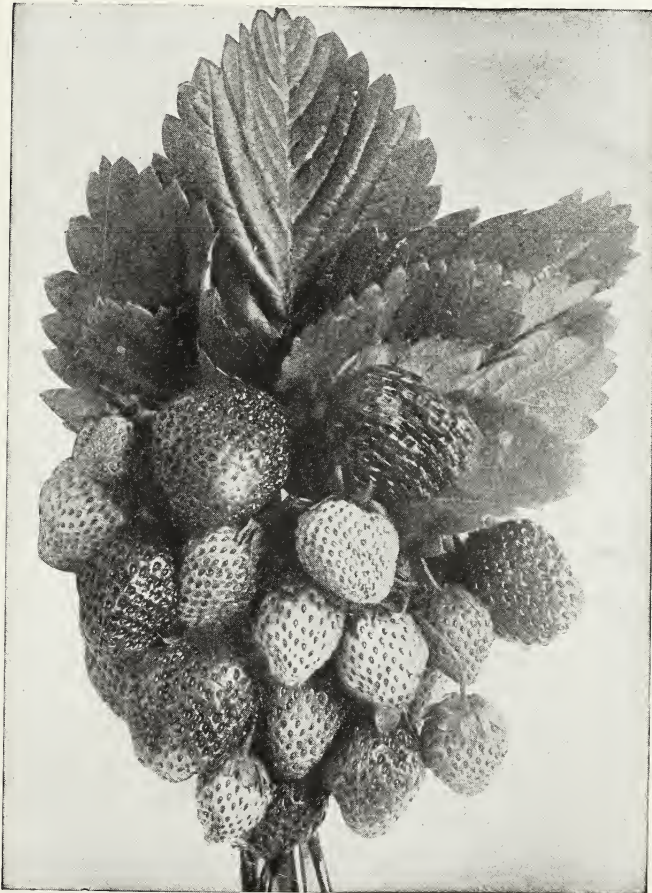
## Everbearing Strawberries

Strawberries that yielded fruit continuously from May until frost have been known for a long time. The new cultivated sorts were originated by cross-pollinating these wild everbearing Alpine sorts with our standard varieties and combining the everbearing habits of the one parent and the size and quality of the other.

We have been testing the different varieties of everbearers for several years on our own grounds, and offer to our patrons the following, which have proven perfectly reliable. These varieties have given us fruit continuously from June to November in liberal quantities, except during continued and extremely dry periods. Each fall, blossoms, green and ripe fruit have frozen up on these plants. Spring planting is recommended.

**Americus.** This is a handsome berry of fair size and excellent quality. The plants are strong growers and perfectly hardy. Blossoms and fruits from May until frost.

**\*Progressive.** This berry is one of the best for home use. It is a good-sized, smooth, red berry. Plants are strong, vigorous and very prolific. Fruits all season with a heavy late season yield.



Progressive Everbearing.

**Superb.** Berry glossy, very attractive, and of the finest flavor. Size of berry very large and firm. The plants are strong and stand the winter well, after producing a heavy fall crop.

Strawberries may now be had throughout the summer and autumn months in the northern United States. Plants of the everbearing sorts may be set in the spring and a crop secured in the summer and autumn of the same year.  
\* \* \*

The plants are very hardy, their foliage is very resistant to disease, and under favorable conditions they continue to produce berries until hard frosts occur. These characteristics make them especially suitable for the home garden.—Farmers' Bulletin 901, U. S. Department of Agriculture.

The Progressive, a hand pollinated cross between an everbearer and Senator Dunlap, is the climax of all everbearers. Earlier as a spring crop than any other berry; of better quality than any common variety; staminate, and almost as free a plant maker as its parent, the Dunlap. A persistent bearer from May to November. Fruit of fair size, resembling the Dunlap. New stolons are frequently in bloom before they have taken root. Its heaviest bearing records are under irrigation.

Our best Nebraska record without irrigation is: 100 plants set April 10 allowed to produce berries after July, produced 90 quarts to September 10, and were still averaging one quart per day. They require the same treatment as other berries, and, like other strawberries, respond liberally to good treatment.—G. S. Christy, ex-President Nebraska State Horticultural Society.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

Trees came in fine shape. Will remember you next spring with another order if all goes well.

With many thanks to you,

J. E. INGLIS,  
McCook, Neb.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

The trees came through in fine shape and are all good ones.

Yours truly,

CHAS. P. NELSON,  
Lonepine, Neb.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

The plants arrived in fine shape and are doing fine.

Respectfully,

MRS. L. J. EBERT,  
Crawford, Neb.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

Received your trees in good condition. We are so well pleased with them that we are not afraid to trust you in filling the enclosed order to your best judgment.

Respectfully,

MRS. SUSAN BENSON,  
Sterling Colo.

## Currants

Every family should have a good supply of this beautiful, easily grown fruit. Currants love a cool, deep soil, and a little shade. Among fruit trees or along the north side of a fence is a good place. No matter how good the soil, give good cultivation and plenty of manure. The following varieties will give good satisfaction.

**Cherry.** Well known; large, bright crimson, very acid; an old favorite; one of the largest currants.

**Fay.** Very prolific if properly cared for. It is a gross feeder, and requires liberal fertilization. It is healthy, vigorous and very productive; the bunches are long, and easily picked; commands a high price; berries large and hold their size well to the end of the bunch; bright red, of good flavor, and more acid than most varieties.

**\*North Star.** Both berry and bunch are very large; the fruit is superior, very sweet and rich in quality, firm; a very good market currant; desirable as a desert fruit in the natural state, and unequaled for jelly.



North Star Currants.



White Grape Currant.

**Red Dutch.** An old favorite; productive and of good quality; fruit small.

**\*Victoria.** Large, bright red; bunches very long; late; very productive and valuable. This is a standard, very good and reliable currant, and will suit everybody.

**\*White Grape.** Very large, white; this is the very best table variety of currants known; sweet or very mild acid; good grower, hardy, perfectly satisfactory in every respect, and a currant we most heartily recommend for any purpose.

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Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

Find enclosed my check for 100 evergreens; all set out and look well. I am well pleased with them.

Respectfully,

R. H. REITZ,  
St. Edwards, Neb.

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Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

Received the trees a week ago. Are in fine shape and already growing. Many thanks.

Respectfully,

P. PEARSON,  
Concord, Neb.

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Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

We got trees from you six years ago, and they were such good ones we would like to order from you again.

Respectfully,

MRS. W. D. KING,  
R. R. 1,  
Lincoln, Neb.





## Gooseberries

In order to produce large, abundant crops of gooseberries it is necessary to manure heavily and prune closely; they require about the same location, treatment, etc., as the currant, except they will stand more sun.

✓ **Champion.** Medium to large size; quality good; free from mildew; bush large and healthy; very productive.

✓ **\*Downing.** Fruit large; flesh whitish green, soft, juicy and good; plant vigorous and prolific; one of the very best.

✓ **Pearl.** Fruit and bush similar to Downing;

bears well and is perfectly hardy. It is one of the newer sorts.

✓ **\*Houghton.** The old well-known sort; pale red; quality good. It is rather small, but productive, healthy and a very reliable gooseberry.

✓ **Smith.** Much like the Downing; strong grower; large berry; productive.

✓ **Industry.** Very large; dark red; hairy, of delicious quality. In a cool, rich soil, with a northern exposure, it will yield a few large, luscious berries; it is a little impatient of the hot sun; not an ironclad.



Asparagus.

## Asparagus

This much neglected vegetable is very easily grown and should find a place in every city and farm garden. Such immense quantities of it can be grown on a small space that no home owner can afford to be without it. The asparagus roots should be planted in well-prepared beds, the soil of which has been enriched by liberal quantities of well rotted manure. For use it should be cut just at the top of the ground when it is from three to five inches high. This is one of the earliest of vegetables, the shoots coming out before the frost is hardly out of the ground.

**\*Conover.** Is the best for general planting, and is largely grown.

**Palmetto.** Early; is a very reliable variety.

## Rhubarb

**Linnaeus.** Early, tender and good; season long.

**\*Victoria.** Very large, long tender stems.



# Ornamental Department



## Shade and Ornamental Trees

Our shade and ornamental trees are first-class in every respect, being transplanted from the seed bed into nursery rows and grown and trained up especially for this purpose.

**\*Ash, American White.** A medium grower and valuable for planting in the streets or in parks; may be extensively planted for timber.

**\*Ash, Mountain, American.** A tree of rapid but coarser growth than the European variety; pinnage foliage.

**Ash, Mountain, Oak-Leaved.** A handsome tree of erect habit and rich green foliage, deeply lobed; hardy and desirable.

**Birch, American White.** A beautiful native tree, common to our woods, particularly in the northern part of the country; its shining white bark and slender brown branches make it an attractive object; foliage large, handsome.

**Birch, European White.** A well known tree, with graceful, airy foliage and silvery white bark; very desirable for the lawn, either as a single specimen or in contrast with other trees in a group.

**Birch, Cut-Leaved Weeping.** See Weepers.

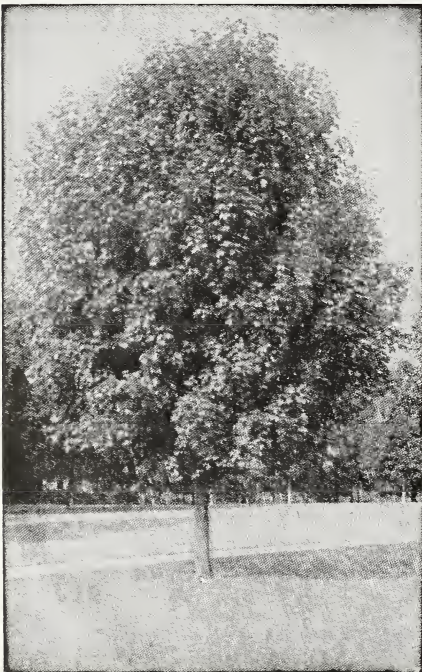
**Catalpa (Speciosa).** A variety originating in the West; more upright and symmetrical in its growth than the common Catalpa, and blossoms two or three weeks earlier. Valuable for timber, fence posts, railroad ties, etc., possessing wonderful durability; a very ornamental and valuable tree where hardy.

**Chinese Catalpa (C. Bungei).** A species from China. Foliage large and glossy; a shy bloomer. Top-grafted on tall stems it forms a perfect umbrella-shaped head and makes an effective tree for formal gardens.

**Cherry, Wild Black.** A beautiful, upright, round headed, strong growing tree; slender, glossy leaves, hardy.

**Chestnut, American Sweet.** See Nut Trees.

**\*Elm. White (Ulmus Americana.)** A noble spreading and drooping tree of our native forests, peculiarly suitable for avenues and drives, where it is at once useful and ornamental.



Norway Maple



**Elm, Camperdown Weeping.** See Weepers.

**Ginko, or Maiden Hair (Salisburia).** A rare, elegant tree from Japan, thrives well in the prairie states, singular foliage; desirable.

**Hackberry.** A native tree, resembling the elm somewhat, foliage more pointed and a bright glossy green, bark thick and rough; a symmetrical grower; good street tree.

**Horse Chestnut, European.** Similar to the American Buckeye; forms a round, shapely head; very dense and beautiful; moderately hardy.

**Linden.** A rapid growing, large sized tree, with a remarkably straight trunk; deep green, heart-shaped leaves, and clusters of fragrant yellow flowers; makes a handsome shade tree.

**Lilac, Japan Tree.** Matures into taller trees than the Chinese. Darker in bark and color, but habits much the same. Immense spikes of grayish blossoms. Both varieties are extremely hardy, lacking the natural enemy of the lilac.

**Maple, Ash-Leaved (Box Elder).** A rapid growing variety, with handsome, light green foliage and spreading head; a free grower and very desirable as a shade tree and wind-break; where quick effect is desired, does better on low land.

**\*Maple, Common Soft or Silver-Leaved.** Of rapid growth; of great value where a rapid growing tree is desired; very hardy and easily transplanted; a favorite street or park tree.

**Mulberry.** See Fruit Department.

**Mulberry, Tea's Weeping.** See Weepers.



Russian Olive

**Magnolia Acuminata (Cucumber Tree).** A large tree for the specie. Shapely and handsome; flowers, yellowish white; the fruit, when green, resembles a cucumber; rapid grower and fairly hardy. Hard to transplant.

**\*Maple, Norway.** This tree is proving to be one of the best of the hardwood trees for Nebraska and adjoining states. It closely resembles the Eastern Hard or Sugar Maple in appearance, but is harder in the West. It is very symmetrical with a round, dense head and dark green foliage. Makes a beautiful shade or street tree. It grows somewhat slower than the Soft Maple, but is sturdy and the limbs are not so easily broken by the wind.

**Maple, Hard or Sugar.** A beautiful, stately tree of fine form; a desirable shade tree where it does well.

**\*Olive, Russian.** An ornamental tree of special value; attains a height of thirty feet or more; bark and leaves light green when young; bark becomes darker as the tree grows older, and the leaves more silvery white; it blooms profusely in June in small racemes, three inches long, and their fragrance decidedly sweet and spicy; an excellent lawn tree in semi-arid districts.

**Poplar, Bolena.** Somewhat similar to Silver Poplar. The sharp cut leaves are pure white on the lower and a dark green on the upper side. Never makes sprouts from roots. Hardy everywhere.



American Elm.



\***Poplar, Norway.** Tree very hardy; is being planted extensively, resembles Carolina Poplar, but retains its size better as it mounts upward, making a sawlog quicker than any tree in cultivation; is also valuable for street and park planting as well as screens and shelters.

\***Poplar, Carolina.** Of good form and robust growth, and desirable where a very large tree is required; a beautiful lawn tree if cut back to eight or ten feet.

**Poplar, Volga.** A new, hardy poplar from Russia. The tree is an upright grower, similar to the Lombardy Poplar. The branches are much stronger, however, and the leaves are larger, of better form and deeper green. Perfectly hardy, of strong, vigorous growth.

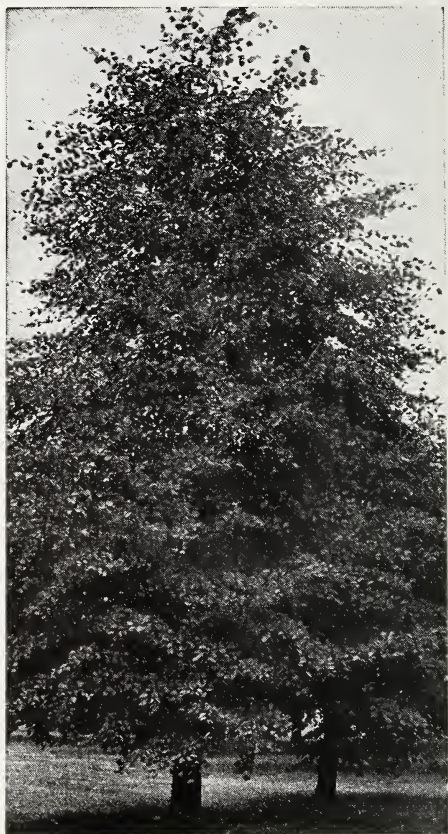
**Poplar, Silver-Leaved.** A tree of remarkably rapid growth; at a distance the white under surface of the leaves turned up to the wind gives it somewhat the aspect of a tree covered with white blossoms. Sometimes incorrectly called silver maple.

**Pin Oak.** One of the most beautiful street and lawn trees grown; of rapid growth, and transplants much easier than the Burr Oak; perfectly hardy.

**Sycamore (American Plane or Button Wood).** A well-known tree, and one that is well adapted for streets in cities and villages, where gas and smoke are injurious to foliage; upright, shapely and beautiful.

**Tulip.** A native tree of the magnolia order; rich, glossy foliage; regularly distributed branches and large tulip-like flowers; difficult to transplant unless of small size.

**Walnut, White or Black.** See Nut Trees.



Linden

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:  
My order of fruit trees reached me in fine condition.

Sincerely,  
M. E. PIERCE,  
R. R. 3,  
Lincoln, Neb.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:  
Nursery stock and everything growing fine. Thank you in all ways.

Respectfully,  
J. E. MULLIGAN,  
Florence, Neb.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:  
The trees came in fine shape. I thank you very much.

Yours truly,  
FRED JOHNSON,  
Oakdale, Neb.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:  
The trees arrived and I have them heeled in. They are a fine lot, and as I plant them in town they will be a good ad for you.

Respectfully,  
WARD M. BRAYTEN,  
Stuart, Neb.



Mountain Ash.



## Weeping Trees

**\*Birch, Cut-Leaved (Weeping).** An elegant erect tree, with slender, drooping branches and fine cut leaves; a magnificent variety and worthy a place on every lawn; hardy.

**Elm, Camperdown (Weeping).** Its vigorous, irregular branches, which have a uniform weeping habit, overlap so regularly that a compact, roof-like head is formed; the finest Weeping Elm.

**\*Mulberry, Tea's (Weeping).** A graceful and beautiful hardy tree, forming a perfect umbrella-shaped head, with long, slender, willowy branches, drooping to the ground and gracefully swaying in the wind; foliage small, lobed and of a delightful, fresh, glossy green. The tree is exceedingly hardy, of rapid growth and abundant foliage; it is admirably adapted to cemetery planting and susceptible to being trained into almost any shape.

**Mountain Ash (Weeping).** A beautiful tree, with straggling, weeping branches; makes a fine tree for the lawn; suitable for covering arbors; hardy.

**Willow, Russian Yellow (Weeping).** One of our finest and best natural weepers. Extremely hardy.

**Willow Wisconsin (Weeping).** Of drooping habit and considered the hardiest. Val-

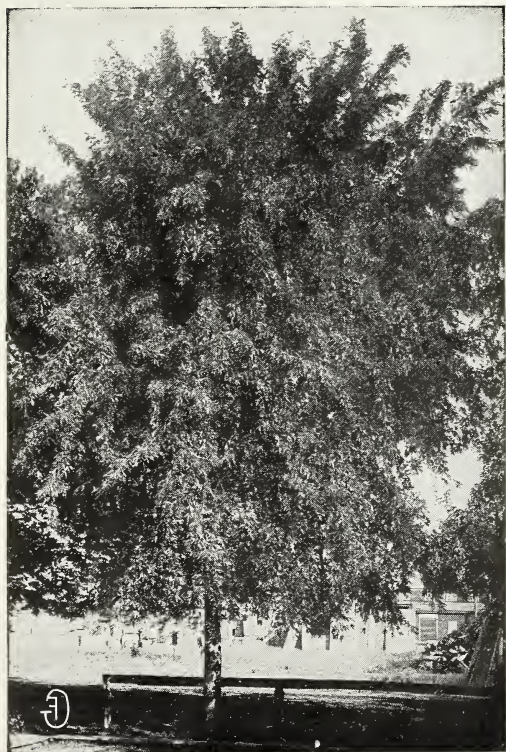


Cut Leaf Weeping Birch

uable on account of its ability to resist severe cold.

**Willow Nioba (Weeping).** Resembles the Golden Willow in color of the bark, a pretty golden yellow. Branches are slender, long and well drooping, growing to the ground in a short time. Leaves are a whitish green. Very vigorous grower and perfectly hardy, even in the Dakotas.

**New American and Kilmarnock.** Have been thoroughly tested and are not quite hardy enough for Iowa and Nebraska.



Weir's Cut Leaf Maple

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

Trees came in very good condition.

Yours truly,

MEL C. LEACH,  
Fullerton, Neb.

Marshall Bros. Co.,  
Arlington, Neb.

Gentlemen:

Thank you very much for your careful selection you sent me. We were very much pleased.

Respectfully,

BERGER BROS.,  
5126 Pappleton Ave.,  
Omaha, Neb.

## Shrubs

Blooming period, color and character of flowers, height and habits of shrubs.

Common Name.	Color of Flower.	Character	Height.	Habit.
<b>APRIL—</b>				
Flowering Almond	White, Pink	Double	3 to 5 ft.	Spreading
Golden Bell	Yellow	Single	5 to 8 ft.	Weeping
Japan Quince	Red	Single	4 to 6 ft.	Dense
Thunberg's Barberry	Yellow	Single	2 to 3 ft.	Dense
Purple Barberry	Yellow	Single	5 to 10 ft.	Dense
<b>MAY—</b>				
Mock Orange (Syringa)	White	Single	5 to 10 ft.	Upright
Snowball	White	Spherical	3 to 8 ft.	Spreading
Green Barberry	Yellow	Small	5 to 10 ft.	Dense
Spirea Van Houtti	White	Double	4 to 6 ft.	Upright
Spirea Anthony Waterer	Crimson	Double	1½ to 2½ ft.	Bushy
Spirea Arguta	White	Double	1½ to 3 ft.	Bushy
Spirea Billardi	Pale Pink	Spikes	3 to 5 ft.	Branching
Flowering Currant	Red or Yellow	Small	3 to 6 ft.	Bushy
White Kerria	White	Single	3 to 5 ft.	Branching
Siberian Pea Tree	Yellow	Single	8 to 12 ft.	Upright
Flowering Plum	Pink	Double	4 to 7 ft.	Branching
<b>JUNE—</b>				
Golden Ninebark	White	Clusters	4 to 6 ft.	Branching
Weigela	Red, White, Pink	Single	3 to 6 ft.	Arching
Lilac	White, Purple	Large	6 to 8 ft.	Branching
Elder	White	Flat	5 to 10 ft.	Shrubby
Golden Elder	Yellow foliage	Flat	4 to 8 ft.	Shrubby
Smoke Tree	Purple	Feathery	6 to 10 ft.	Branching
Bush Honeysuckle	Pink, White	Clusters	3 to 5 ft.	Branching
Deutzia	White	Clusters	2 to 3 ft.	Branching
Arrowwood	White	Black fruit	3 to 8 ft.	Spreading
Wayfaring	White	Leathery leaves	8 to 12 ft.	Upright
Hills of Snow	White	Spherical	1½ to 3 ft.	Bushy
Jap. Corcorus	Yellow	Single	2 to 4 ft.	Weeping
<b>JULY—</b>				
Spirea Bumalda	White	Clusters	2 to 3 ft.	Spreading
Sumach	Pink	Large	6 to 16 ft.	Branching
Snowberry	Pink flower	White berries	2 to 5 ft.	Spreading
Coralberry	Pink flower	Red berries	2 to 5 ft.	Spreading
<b>AUGUST—</b>				
Tamarix	Pink	Fringe	12 to 18 ft.	Spreading
Althea	White, Red, Purp.	Single	4 to 6 ft.	Spreading
Hydrangea	White	Large panicle	4 to 8 ft.	Spreading
Butterfly Bush	Purple	Spikes	3 to 5 ft.	Branching
<b>SEPTEMBER—</b>				
High Bush Cranberry		Red berries	8 to 10 ft.	Spreading
Hop Tree		Winged seeds	8 to 12 ft.	Upright
Red Dogwood		Red twigs	5 to 8 ft.	Spreading
Yellow Dogwood		Yellow twigs	5 to 8 ft.	Spreading
Privet		Foliage and berries	5 to 10 ft.	Dense

## Shrubs for Shady Locations

Dogwood	Honeysuckle	Deutzia	Barberry Thunbergi
Forsythia	Barberry	Hydrangea Arborescens	Snowberry
Privet	Flowering Currant	Sumac	Coralberry
Viburnum			



## SHRUBS—(Continued)

Marked with asterisk (\*) are perfectly hardy.

Marked with "?" are not perfectly hardy and should be planted in protected places and where they will not be missed in case they might freeze back.

?**Althea (Hibiscus).** The Altheas are fine, free-growing shrubs of easy cultivation and very desirable on account of their flowering season—August and September—when few other shrubs are in bloom. Can furnish these in white, red or purple. Grow from 4 to 6 feet in height.

\***Arrow Wood (Viburnum Dentatum).** Flowers are greenish white, followed by black fruit in fall. One of the best shrubs for massing for foliage effect. Grows from 5 to 9 feet.



Hydrangea A. A. (Snowball Hydrangea).

\***Aralia Spinosa or Hercules' Club.** Might really be classed as a small tree. A native plant and foliage very useful for producing a sub-tropical effect.

\***Barberry (Berberis).** The Barberries are a very interesting family of shrubs, varying in height from 2 to 10 feet, and are rich in their variety of leaf, flower and habit. Their showy orange and yellow flowers are succeeded in autumn by a bright and various colored display of fruit which hang on until in the winter. Following are the different varieties.

\***Green Barberry (B. Vulgaris).** Very pretty deciduous shrub, growing from 5 to 10 feet in height and very valuable for filling in the back of the shrubbery border. Small yellow flowers in June, followed by orange colored berries.

\***Purple Barberry (B. Purpurea).** Same style of growth, only with the purple colored leaves.

\***Thunberg's Barberry (B. Thunbergii).** Dwarf or Japanese Barberry. From Japan. A pretty dwarf species that will fit into almost any planting and will grow in most any place. Handsome foliage of bright green oval shaped leaves which turn into the most brilliant shades of coppery red and orange in autumn and which remain on till late fall. The slender graceful little branches are protected by small thorns and are lined with small scarlet berries which hang till well into the winter and help give life to the shrubbery border, especially when there is snow on the ground. Grows from 2 to 3 feet high and makes the ideal low hedge.

\***Buffalo Berry (Shepherdia Argentea).** Tree-like shrub growing from 10 to 15 feet high. Silvery foliage. Attractive edible berries. Valuable for growing in colder and more exposed locations.

**Buckthorn (Rhamnus).** Very robust hardy shrub. Fine for coarse hedges. Will grow from 8 to 12 feet high. Pretty dark green foliage.

\***Burning Bush.** See Wahoo.

\***Bush Honeysuckle (Lonicera Tartarica).** Bush form of honeysuckle, white and pink flowers. Clean foliage. Grows from 5 to 8 feet in height. Very desirable.

(**L. Morrowi.**) Japanese variety. Grows only 4 to 6 feet tall and spreading. In early spring its pure white flowers are very attractive. The finest berry-bearing variety, the fruit being a rich crimson and remaining a long time. Very hardy.

\***Butterfly Bush (Buddleia Variabilis Magnifica).** The name Butterfly Bush was applied to it because it seems to attract butterflies in large numbers. This shrub from a young plant set out either in the spring or fall, will mature to full size the first summer, producing a handsome bush, which the first year often attains a height of four feet. It produces long, graceful stems, which terminate in tapering panicles of beautiful lilac colored flowers that are of miniature size and borne by the hundreds on a flowerhead which is frequently ten inches long. A single plant the first season will throw out as many as 50 flower spikes, which increase greatly in number during the succeeding years. The year after planting it generally commences to flower in June and continues each season until the severe frosts nip it. The foliage and blooms are exceedingly fine. The shrub is semi-herbaceous, by which we mean that in some latitudes it will die down to the ground and while perfectly hardy, we recommend covering the roots with manure, leaves or other suitable material as winter approaches, as this will produce a heavy growth the following season.

\***Coral Berry (Symphoricarpos Vulgaris).** Small, low growing shrub of very pretty habit, slightly drooping, flowers very small, fruit purplish-red and hangs all winter. Grows from 1½ feet to 2½ feet. Very useful for "bringing larger shrubbery down to the ground;" also to hide the bodies of larger shrubbery which does not limb close to the ground. (Same as Snowberry, with the exception of the color of fruit).

\***Dogwood (Cornus).** See list of varieties below.

**Red-Twigged Dogwood (Cornus Stolonifera).** A native species, with smooth, slender branches, which are a bright red in winter. Grows 5 to 8 feet in height. Very useful for livening up shrubbery in winter.

**Yellow-Twigged Dogwood** (*C. Stol. Flaviramea*). Same description as *stolonifera* except twigs and branches are bright yellow all winter.

**Flowering Dogwood** (*C. Florida*). A very showy large shrub or small tree. Useful for border of tree clumps or in back of shrubby border. Large flowers.

**Gray Dogwood** (*C. Paniculata*). Smooth grayish bark.

**\*Deutzia** (*Deutzia*). We are indebted to Japan for this valuable family of shrubs. Their hardihood, fine habit, luxuriant foliage and profusion of attractive flowers place them among the most beautiful and deservedly popular class of hardy flowering shrubs of the present time. Flowers the latter part of June in racemes from 4 to 6 inches long. We recommend the following varieties. Note the height of growth of each.

**Gracilis**. A dwarf, slender branched type, flowers pure white, grows from 2 to 3 feet in height.

**Lemoinii**. A hybrid, grows from 2 to 3 feet in height, probably a little more compact than the *Gracilis*.

**Pride of Rochester**. Pinkish flowers, grows from 4 to 6 feet in height. Probably the best variety for the north.

**?Desmodium** (*Lespedeza*). Might be termed as a half shrub. Freezes nearly back to the ground in winter. Very useful on account of its foliage. Grows from 2 to 3 feet in height. Purple flowers in fall, but so late that they may not always bloom in this latitude. Would not advise planting north of the Platte river.

**\*Elder** (*Sambucus*).

**Common Elder** (*S. Canadensis*). Too common to need any description.

**Red-Berried Elder** (*S. Racemosus*). Grows from 6 to 8 feet high. Flowers followed by bright red berries.

**Golden Elder** (*S. Aurea*). Handsome yellow foliage. Useful for enlivening shrubberies.

**Fringe Tree**. See Sumach, also White Kerria.

**\*Flowering Almond** (*Prunus*). A very attractive little shrub producing an abundance of pretty little flowers in spring before the leaves appear. Can furnish them in either pink or white double flowering. Grows from 3 to 5 feet in height.

**\*Flowering Currant** (*Ribes*). Gay, beautiful flowering shrubs in early spring. Either red or yellow flowered. Leaves color up pretty in fall. As a specimen shrub it is undesirable on account of the coarse bareness of the stalk. Foliage not thick enough. Is fine for shrubby groups where smaller shrubs can be used in foreground. Three to six feet.

**\*Golden Elder**. See Elder.

**\*Golden Bell** (*Forsythia*). These are attractive shrubs having yellow flowers which appear very early in spring before the leaves. Bark a yellowish-green. There are two styles of growth in these—the upright (*Intermedia*) and the drooping or weeping (*Suspensa*).

**\*Golden Ninebark**. See Spirea.

**Hazel or Filbert** (*Corylus*). The common hazelnut.

**Purple Leaved Filbert** (*Corylus Atropurpurea*). A very interesting shrub. European origin.

**\*Hydrangea** (*Hydrangea*). These are so well known and so well liked that they hardly need description. However, there are several varieties which are comparatively new and deserve attention.

**\*Hills of Snow, Snowball Hydrangea** (*H. Arborescens Alba*). Blooms are very large and of pure snow-white color, rather round instead of pyramidal. Its most valuable characteristic is its blooming season, coming into bloom in early June and remaining until frost. Perfectly hardy and reserves a foremost place in every garden. Grows from 1½ to 3 feet high. Beautiful foliage.

**Common Hydrangea** (*H. Paniculata Grandiflora*). One of the best and most popular of our flowering shrubs. Grows from 3 to 5 feet high. Large pyramidal shaped flowers measuring as much as seven inches across in July and August when few other shrubs are in bloom. Perfectly hardy.

**\*High Bush Cranberry** (*Viburnum Opulis*). Very interesting shrub, growing from five to seven feet high, pretty leathery leaves. Bright red berries which hang till long after frost. This is really a snowball and what is commonly known as the snowball is a variety of this shrub. Worthy of more general planting. Very useful in the shrubby border and as single specimens if kept in the correct place.

**\*Hop Tree** (*Ptelea Trifoliata*). Really a small tree, but generally classed among the larger shrubs. Has interesting little fruit or winged seeds, which grow in large clusters. Leaves when injured exhale a sort of hop-like odor. Grows into a small tree eight to twelve feet.

**\*Juneberry** (*Amelanchier*). Common Juneberry is used occasionally in a landscape plan for filling in the back of shrubby border. It is a coarse, high and cheap shrub. Perfectly hardy everywhere.

**\*Japan Quince** (*Cydonia Japonica*). Hardy and very interesting shrub. Has a beautiful scarlet and sweet-scented flower very early in spring. We are sorry that we cannot recommend it, but it is very susceptible to cedar rust, which kills the foliage and is injurious to apple trees and other common trees and plants.



Spirea Van Houttei.



**\*Japan Oleaster (Elaeagnus Longpipes).** This might be called a shrub Russian Olive. Its foliage is practically the same. It is an attractive spreading bush with silvery tinted foliage, and in July the bush is covered with bright red berries. Laden with this fruit it is highly ornamental, and the fact that the leaves remain fresh till late in autumn gives it additional value for garden decoration. Height four to six feet.

**?Japanese Corchorus (Kerria Japonica).** A bramble-like shrub, producing attractive yellow flowers all summer long. Twigs are bright green in winter. There is a variegated-leaved form. Generally used in edge of shrubbery and along banks on account of its style of growth. Grows from two to three feet. Not thoroughly tested here so that we could recommend it as being perfectly hardy.

#### **\*LILAC (Syringa).**

**O. F. or Common Purple Lilac (S. Vulgaris).** **Persian White (S. Persica Alba).** Commonly known as just white lilac. More spreading and open than the common purple. Foliage not so dense. Flowers white. Grows to six to eight feet in height.

**Persian Purple (S. Persica).** Same as above, except with violet colored flowers.

#### **HYBRID LILACS**

**Dr. Bretschneider.** Large, coarse leaves. Great masses of flowers, nearly white. A prolific bloomer. Comes into flower about the 10th of June. We consider this the most desirable of the late bloomers. Blooms while exceedingly young. Bushes, this year, 24 inches high, carried as high as fifty open bunches at one time.

**Ludwig Spaeth.** Very dark crimson-purple; one of the darkest.

**President Grevy.** Very large, handsome soft blue; flowers very double.

**Tree Lilacs.** There are so many different varieties of these that we will list them only as to color—pink, white or purple. These will grow from five to fifteen feet in height.

**\*Mock Orange (Philadelphus).** For years termed "Syringa" incorrectly. One of the best shrubs that we have. A rapid and vigorous grower, with large, handsome foliage, and beautiful white, sweet-scented flowers, which come in June. By planting some of the later flowering sorts the season of blooming may be prolonged through nearly the whole month. The common varieties grow from ten to fifteen feet in height. However, they may be kept back by an occasional pruning. We can furnish dwarf varieties which will not grow over four feet.

**\*Plum, Purple-Leaved (Prunus Pissardi) and (Prunus Othello).** These are the best purple-leaved varieties—the Othello probably the better of the two. Really a small tree, growing from four to seven feet in height. Interesting specimens for the shrub border, and are used for furnishing accent for same.

**\*Plum, Double-Flowering (Prunus Triloba).** Native of China. Flowers double and delicate pink, thickly set along the slender long branches. Height four to seven feet.

**\*Pea Tree, Siberian (Caragana Arborescens).** A shrub or low tree. Grows from eight to twelve feet in height. Yellow pea-like flowers in May. Useful in filling in border where variety is desired. Very hardy.

**Privet (Ligustrum).** **\*Privet Amoor River North (L. Amurense).** Grows from three to five feet. One of the hardiest kinds. It is similar in most respects to the California and useful in the same ways. We urge its more general use in colder climates where an inexpensive shrub which will endure most hardships is desired.

**?California Privet (L. Ovalifolium).** Widely known as a hedge plant. Half evergreen. Not quite hardy in Nebraska.

**\*Regel's Privet (L. Regelianum) (Fern-leaf Privet).** A very valuable hardy shrub, handsome shining foliage, and horizontally spreading branches. Very desirable when grown as a single specimen for hedges, or for mass planting. Deserving of more general planting. Perfectly hardy, and we consider it one of the best of the privet family. Grows from three to five feet.

**Purple Fringe.** See Sumach.

**Smoke Tree.** See Sumach.

**\*Sumach (Rhus).** The common varieties of this are too well known to need description. However, there are several varieties of this family which are very useful in landscape work, as the Staghorn, Cut-leaf and (Rhus Cotinus) or Smoke Tree.

**Dwarf or Shining Sumach (R. Copallina).** Shining green foliage, changing to bright crimson in autumn.

**Cut-leaf Sumach (R. Laciniata).** A very striking shrub of moderate height, with deeply cut fern-like leaves, which turn to a rich crimson in autumn.

**Staghorn Sumach (R. Typhina).** Large picturesque form. Also a cut-leaf variety of this. These, if they are to be left to grow without being cut back, should be planted in the back of the shrubbery border or along the edge of timber belts. Or they may be planted in the front of the shrubbery border and cut back every year, as the young shoots are very beautiful.



White Flowering Dogwood.

\***Smoke Tree** (*R. Cotinus*). Incorrectly called Purple Fringe by many people. From southern Europe. Much admired for its odd and curious fringe or hair-like flowers that cover the whole surface of the plant in mid-summer. Grows from ten to twelve feet high.

\***Snowberry** (*Symphoricarpos Racemosus*). Same as Coral Berry, except that this has a snow-white berry instead of a red one of the Coral Berry.

\***Spireas**—Common name Meadow Sweet. Indispensable shrubs of easy culture that differ so in size, character and time of bloom that there are varieties suited for almost every purpose. The blooming of the different varieties extends over a period of three months. All varieties do best in a moist, fertile soil with a sunny exposure.

**Spirea Anthony Waterer**. Blooms from June until frost under proper care. Needs plenty of moisture. Crimson flowers. Useful for specimens and edging along shrubbery border where a low flowering shrub is desired. One and one-half to 2½ feet.

**Spirea Arguta**. Dwarf white flowering variety. Blooms early in May. Flowers crowd along slender branches and show up like snow through the light green feathery foliage, which turns to a brilliant orange and scarlet in autumn. We consider the two above the best of the dwarf varieties.

**Spirea Billardi**. This variety will probably be disappointing if planted for single specimens. Sparsely twigged, erect branches

crowned with fluffy pale pink spikes or flowers. Very useful for shrubberies and in moist places and natural plantings. Blooms nearly all summer. Grows three to five feet high.

**Spirea Opulifolia Aurea**—"Golden Ninebark." A large, vigorous growing shrub that bears an abundance of fragrant white flowers in flat clusters in June. Followed by interesting seed pods. Foliage golden-tinted, four to six feet.

**Spirea Thunbergii**. Of dwarf habit and graceful, rounded form. Flowers very small and one of the first to bloom. April and May. Leaves very small and of a yellowish green color. Used for single specimen and to work into edge of shrubbery for color contrast. Grows from 2 to 3½ feet.

**Spirea Van Houtii**. Probably the best known of all the spireas and commonly known as Bridal Wreath. This, however, is an improvement over the old Bridal Wreath. Will probably work into more places than any other shrub. Flowers pure white in May and early June. Without doubt the finest of the spirea collection.

\***Snowball, Common** (*Viburnum Opulis Sterilis*). The old-fashioned snowball that grows most everywhere and flowers so abundantly. Blooms the latter part of May. Grows from six to ten feet in height.

\***Tamarisk** (*Tamarix*)—Odd shrubs or small trees of upright growth with small leaves, somewhat like Juniper or somewhat resembling the asparagus. Flowers, if they may be so called, are sort of a delicate pink or red fringe. Very useful for a tall screen of shrubbery, as they will in time attain a height of fifteen to eighteen feet. May be kept pruned back to any desirable height if used as specimen shrubs.

?**Weigela** (*Diervilla*). Another valuable genus from Japan. Shrubs of erect habit while young, but acquire a drooping habit with age. Their flowers, which begin in June after the lilacs, and continue through July, make quite an attractive addition to our shrubbery borders. We consider the "Eva Rathke" a brilliant crimson flowered variety, the "Candida" white flowered one, and Rosea, pink, the three best. Flowers are trumpet shaped and measure probably three-fourths inch across. Not perfectly hardy through the central and northern Nebraska. Plant them in sheltered locations.

\***White Kerria** (*Rhodotypus Kerrioides*). From Japan. A good ornamental shrub of medium size, three to five feet. Handsome foliage and single white flowers in May, succeeded by black fruit. This is a good shrub to use where a varied collection is desired.

\***Wayfaring Tree** (*Viburnum Lantana*). Of the same family as the common snowball. More nearly a small tree than a shrub and very desirable for single specimens to stand out along the edge of shrubbery border, for use in the back of a border, or for edging along a belt or group of large trees. Grows eight to twelve feet in height. Soft, heavy leathery leaves, which hang till late in fall. White flowers in May, succeeded by showy red berries.



Snowberry.



# Hedges

Hedges are best thought of as living walls. They are used for ornamental effect, windbreaks, screen and defense.

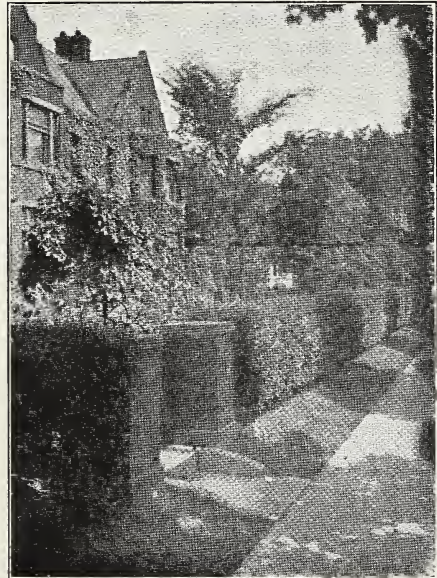
For low ornamental hedges Thunberg's Barberry, Rose Rugosa, Japanese Quince and the various privets are appropriate. Evergreen hedges are best made of American Arbor Vitae, Black Hill Spruce and Norway Spruce.

For wind-breaks and screening objectionable features evergreens are best suited.

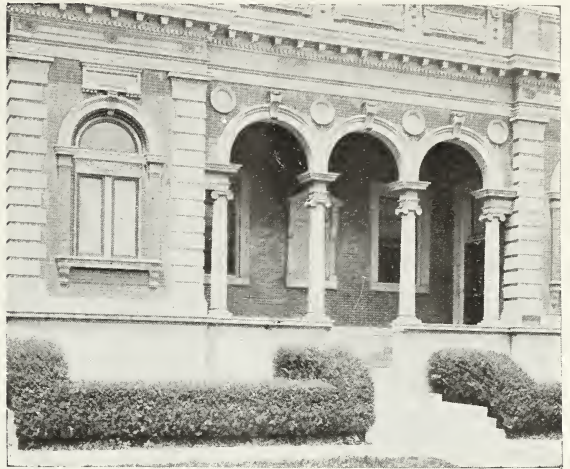
On farms the defensive hedge often takes the place of a fence, and Honey Locust, Osage Orange and Hawthorns are well suited for this purpose.

**Planting Hedges.** The deciduous, low hedge plants should be placed one foot apart. Amoor River Privet, Osage Orange and Honey Locust are used to make extremely compact, dense growth, and should be planted in alternate rows nine inches to one foot apart and the rows about the same distance apart. Evergreens may be placed as close as one foot apart, depending upon the size of the plant.

**Pruning Hedges.** A hedge should be compact, even and pleasing in appearance. Evergreens are pruned in the spring, just before the new growth starts. Arbor Vitae may be pruned in summer if the growth is too pronounced. For the privets pruned severely when planting, cutting off to about six inches from the ground. The growth will be all the more rapid and dense if pruned severely.



Privet, Amoor River Hedge.



Barberry Thunbergii Hedge.

**\*Ligustrum Amurense (Armoor River Privet).** Hardy. Foliage glossy green and holds its color well almost the entire season. Will stand shearing to any extent. Where the California Privet is not hardy the Amoor River should be planted. The use of Privet as a hedge plant is well-nigh universal. It takes kindly to the severe trimming necessary for this purpose. For a medium or high hedge it is fine.

**\*Berberis Thunbergi (Japanese Barberry).** The Barberry is used extensively where a good dwarf, bushy hedge is desired. Every branch is thickly studded with short thorns, and it is often purchased on this account. The foliage turns to a brilliant red in September, which is followed in the winter by a scarlet berry which helps to make it an attractive shrub the year round. It is not susceptible to wheat rust. We especially recommend this variety for ornamental hedges.

**Rosa Rugosa (Japanese Rose).** The bright, luxuriant, glossy foliage of this rose, combined with the beautiful, large, single blossoms of light red or white flowers, makes it a very desirable hedge plant, to say nothing of its large scarlet fruit. Hardy.

**Picea Excelsa (Norway Spruce)**—This is, without doubt, the best variety of evergreen for an ornamental hedge. Should be planted at least three feet apart and does not require trimming until it attains the proper height, and then it must be cut back once or twice a year.

**Picea Canadensis (Black Hill Spruce).** This is a western type of the American White Spruce, dwarfed by growing for centuries in the dry, arid climate of the Black Hills. It closely resembles the eastern type of the White Spruce, but is slower in growth, more compact in form and more silvery in color. It is one of the best of all of the evergreens for planting for ornamental purposes in dry, arid sections. Makes a splendid evergreen hedge.



## Bulbs, Roots and Tubers

**Canterbury Bells (*Campanula*).** Blue and white varieties. Native of Austria. Flowers large, one inch or more across. Height one to two feet. Blooms July and August.

**\*Larkspur (*Delphinium*).** Tall growing, hardy plant, useful for background of flower border. Three to five feet high. Flowers in showy spikes in summer. No herbaceous border is complete without this magnificent plant. Easy to grow and admired by everyone. Does best in rich, deep loam with plenty of sun. "Bella Donna" a clear turquoise blue, blooming from June until frost, in the best variety.

**\*Bleeding Heart (*Dielytra* or *Dicentra Spectabilis*).** Deep, rosy red flowers in May. Height 1½ to two feet. Flowers large; heart-shaped on long, graceful sprays. A fine low border plant, hardy and an old-time favorite. Native of Japan.

**\*Day or Plantain Lilies (*Funkia*).** Hardy plants, forming very dense clumps of lustrous green foliage. Do well in any fertile soil, either sun or shade. Native of Japan. Height 1½ to 2 feet. Flowers lily-like. Either in the flower border or at the base of shrubbery they are appropriate. Old-time favorites.

**Blanket Flower (*Gaillardia*).** Three to five feet. Very hardy ornamental plants. Flowers two inches across on single stems. Colors gold and crimson. Blooms from July to October. Very valuable for cutting, as it flowers profusely. Good in the flower border.

**Hollyhocks.** Few hardy plants combine as many good qualities as the hollyhock. For



Gladiolus.

planting in rows or groups on the lawn, or for interspersing among shrubbery they are invaluable. The flowers form perfect rosettes of the most lovely shades of yellow, crimson, rose, pink, orange, white, etc. The hollyhock requires a rich, deep soil, well drained; will repay in quality and elegance of bloom any extra care. Protection in winter will be beneficial.

**Iris (*The Irises*).**—A truly royal plant and invaluable in the herbaceous border as well as around pools, and in the water garden. Many varied colors harmoniously blended. Plants are hardy and produce a wealth of bloom. Prefer sunny situations in rich, moist loam. Different varieties will carry the blooming season from April to July.

**\*Columbine (*Aquilegia*).** The distinct, clear-cut foliage and delicate arrangement of colors in the flowers of Columbine make it one of the showiest and most desirable of the hardy garden plants; especially suitable for rockwork, at the base of foundation walls and under trees. Bloom in early spring.

**\*German Iris (*Iris Germanica*).** Hardy, vigorous species. Leaves bluish green twelve to sixteen inches long. Flowers are large and in varied colors—white, yellow, purple, blue, lilac and mixtures. May to July. Native of Europe.

**Japan Iris (*Iris Laevigata*).** Native of Japan. Leaves twelve to eighteen inches, bright green. Stems two to three feet tall. Flowers large, six to eight inches across. Very showy. Colors white, blue, violet, lavender and purple. Flowers are different from the German Iris in that they are broad and flat. Japanese Iris bloom later than the other varieties and are among the most beautiful of all flowering plants.



Iris.



**Lilium. (The Lilies).** The best forms are the grand old-fashioned plants that are to be found in every well designed garden. Lilies like well-drained, light, fertile soil. They should be planted in the herbaceous border or among the shrubs. Plant the bulbs rather deep, ten to twelve inches for the largest.

**The Gold Banded Lily of Japan (*Lilium Auratum*).** Is perhaps the finest. Color ivory white with rich crimson spots and a bright gold band through the center of each petal.

*Lilium trigrinum*, *Lilium speciosum* and *Lilium candidum*, the Madonna or old-fashioned Easter Lily, are among the best varieties. Lilies vary in height from two to four feet.

**\*Paeonia (The Paeonies).** These garden plants are among the choicest and most desirable. Their beautiful flowers appear like immense roses, are very fragrant, and offer a wide range of color, from white to deep red, both single and double forms. May and June. They are hardy and like the roses, indispensable for a well-planned garden or home grounds. Paeonies like rich, moist loam and full sun. Set plants two to three inches below the ground. A few leading varieties listed below.

**Festiva Maxima.** Very large, globular, rose type. Pure white center, prominently flecked crimson; outer petals sometimes faint lilac-white on first opening. Very tall, strong, vigorous grower. Early. The most popular white variety for cut-flowers.

**L'Esperance.** Deep rose with crinkly, white tips; extra large and fine; the earliest large pink.

**Philomene.** Medium size, low, flat crown. Guard bright violet-rose, anemone center of ligulated narrow amber-yellow petals, changing to cream; as the flower develops a crown appears bright rose, edged dark crimson. Fragrant. Very strong, upright grower, free bloomer. Mid-season. Distinct and novel.



Funkia.



Phlox

**Plutarch.** Deep crimson; stamens golden yellow. Large and showy.

**Queen Victoria.** The broad guard petals are a pretty blush-white; center slightly edged pink. Large.

**\*Phlox. (The Perennial Phloxes).** Among the showiest of all garden plants. The flowers appear in great panicles and offer a wide range of colors. Hardy. A great many species, differing in color, habit and flowering time. Pink, red, purple, white. August and September. Height one to three feet.

**Oriental Poppy.** Nothing can equal these in gorgeous effect, and, whether planted singly or in masses their large flowers, rich, brilliant colors, and freedom of bloom render them conspicuous in any position.

**\*Golden Glow (*Rudbeckia*).** Double, golden yellow flowers. Height four to six feet. Very thick growth and a profuse bloomer. Late summer. This is an extremely popular plant, is very hardy and may be used in many situations.

**Shasta Daisy.** This is really a chrysanthemum, although most commonly known as Shasta Daisy. A showy, free flowering, daisy-like plant, having white flowers three to four inches across. Blooms in summer and fall. Height one to two feet.

**\*Spanish Bayonet (*Yucca Filmanetosa*).** Three to five feet high. Stately plant, having numerous drooping bell-shaped white flowers in July. Native of North Carolina, Florida and Mississippi. Very effective and conspicuous when in bloom.

**Foxglove (*Digitalis*).** Two to three feet high. Dignified and upright plants, bearing spikes of long tubular flowers. They appear best in the flower border where they lend stateliness and dignity with their spire-like clusters. Colors pink, purple and white. Biennial.



\***Dahlias (Double).** Well known autumn flowering plants, growing from two to five feet high, and producing a profusion of flowers of the most perfect and beautiful forms, varying in color from the purest white to the darkest maroon. Tubers should be kept in the cellar during winter.

\***Dahlia (Cactus).** A beautiful type of dahlia, having fine cut petal inclined to curve, similar to the chrysanthemum.

**Cannas, the King of Bedders.** These are tropical plants found in wet or boggy places, and require heat and abundant moisture to thrive well. They like full exposure to the sun, but a full supply of water about the roots. You are not likely to give them too much water. In the spring the plants may be started in pots or boxes in a warm room or conservatory, and bedded out when the weather becomes warm, or taken in their dormant state and planted out in open beds in April. The larger sorts should be planted in center with dwarfs around the outside; also raise ground six or eight inches in center of bed. Must be taken up after first heavy frost and stored in dry cellar.

\***Gladiolus.** The gladiolus is one of the most attractive of all the summer flowering bulbs and deserves a place in every garden. It requires little care and is sure to flower abundantly. Set the bulbs from six to nine inches apart and about four inches deep; plant from late March to first of June. Store bulbs in dry, medium warm place during winter.



Lily—Speciosum Album.



Yucca.

\***Hardy Ornamental Grasses.** For ornamental purposes, such as hedging, planting in clumps to hide an unsightly object, or singly on the lawn these grasses are strikingly original in effect and impart a degree of tropical brilliance to the landscape. The clumps enlarge in size yearly, each season's growth dying to the ground every winter, but is supplanted by newer, denser and more vigorous increase. In the fall the grass may be cut and utilized for the winter protection of tender plants and roses. The plumes which these grasses produce are large and beautiful, having a feathery appearance, and may be used for interior decoration. Absolutely hardy.

**Eulalia Japonica Variegata.** A standard old sort of distinctive value. Blades are striped lengthwise in a handsome manner, being a combination of creamy white in the center with a broad margin of bright green. Plumes are very beautiful. Two to three feet.

**Gracillima.** This grand variety of Eulalia form exceedingly handsome clumps four or five feet high, which are hardy in all parts of the country. The graceful, narrow foliage is beautiful, shining green with mid-rib of silvery white. We strongly recommend this superb ornamental plant.

**Japonica Zebrina.** This fine ornamental grass is the finest of all Eulalias for single lawn specimens or clumping. Grows four to six feet high. The leaf blades are deep green, distinctly striped cross-wise with large bars of pure white.



## Vines

**\*Virginia Creeper (*Ampelopsis Quinquefolia*).** Easily recognized by its five leaflets. A high climber, attaching itself to walls and trunks of trees by means of tendrils. Native Canada to Florida and Texas. Colors in autumn assume the most brilliant red and scarlet tints. Blue berries. Noted for its fine foliage and beautiful autumn color. Its best use is for covering bare trees, fences, arbors and pergolas.

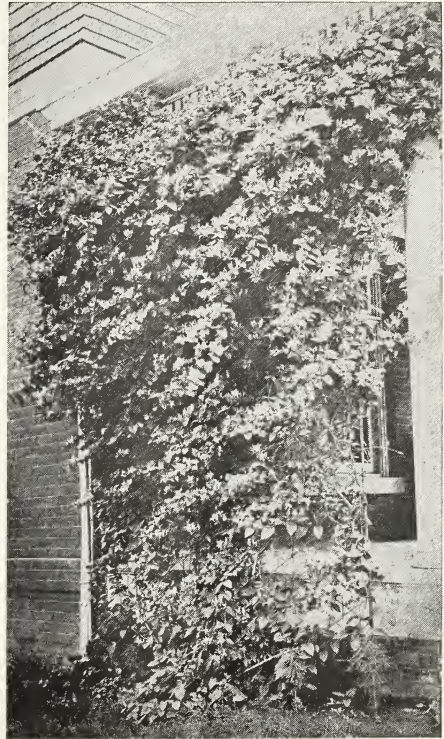
**\*Engelmann's Ivy (*Ampelopsis Quinquefolia Englemanni*).** A rapid grower. Six to ten feet in one year. This variety has the ability to cling to walls without wire trellis and is very desirable.

**Japanese or Boston Ivy (*Ampelopsis Veitchii*).** The very best vine for climbing on buildings. Clings tenaciously to walls by means of tendrils. Native of Japan and China. Leaves three lobed fine lustrous green and colors brilliantly in the fall. Blue berries. Should be planted only in protected places on north and east sides of buildings.

**\*American Trumpet Vine (*Bigonia Radicans*).** A fine, hardy climber, having large trumpet shaped flowers, two to three inches long of a brilliant scarlet color. August. Clings to walls and trees by means of aerial rootlets.

**\*Clematis *Paniculata*.** A very strong climber, having long stems and white, fragrant flowers. A profuse bearer. White flowers borne on panicles, almost completely covering the plant. Blooms late summer and early fall. Grows twenty to twenty-five feet in one season, and should be cut back to the ground each spring. Very hardy and desirable.

**Clematis (*Henryi*).** New, and one of the best perpetual hybrids of a robust habit, and a very



Honeysuckle.

free bloomer. The flowers are white, large and very showy. July to October.

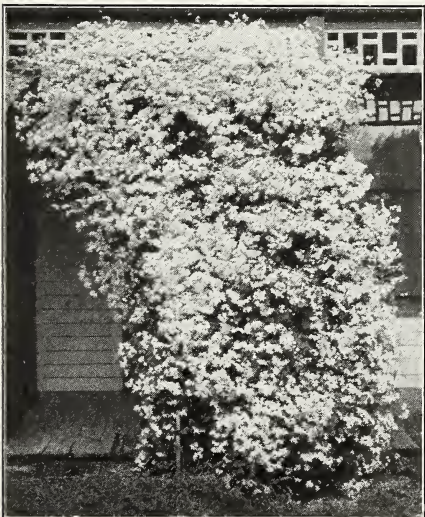
**\*Clematis *Jackmanni*.** Very profuse blooming variety, with flowers from four to six inches in diameter, of an intense violet-purple color, borne successively in continuous masses on the summer shoots.

**Clematis (*Ville de Lyon*).** An excellent variety, with large red flowers. A strong grower and free bloomer. Hardy.

**\*Hall's or Japanese Honeysuckle (*Lonicera Japonica*).** Native of Japan. A hardy, strong climber, nearly evergreen. Flowers pure white, changing to yellow. A long blooming period, July to December, and covered with fragrant flowers. This is the best honeysuckle and one of our finest vines.

**\*Scarlet Trumpet Honeysuckle (*Lonicera Semper-virens*).** Scarlet flowers two inches long. Blooms profusely and is very showy. Good for porches.

**\*Chinese Wistaria (*Wisaraia Chinensis*).** Tall, rapid growing, having beautiful foliage and flowers. Leaves compound. Flowers pea shaped, borne on long, drooping clusters eight to twelve inches long. May and June and sometimes flowers in autumn. Very showy. Varieties purple and white.



Clematis *Paniculata*.



## Roses



### Hardy Hybrid Roses

These are hybrid crosses between June and monthly roses, partaking of the hardiness of one parent and the perpetual blooming habits of the other. They are by far the most popular family of roses.

As all hybrid roses bloom on new wood only, they should be cut off from eight to ten inches above the ground each spring, thus they will send up good, strong shoots each spring, which will produce much larger bloom than will the weak, slow growth of the old wood if left untrimmed. Clipping off the seed pods will also aid in the blooming. They should be protected in winter by throwing a mound of earth around them ten or twelve inches high during the fall, removing same in the spring.

**Coquette Des Alps.** White, lightly shaded with carmine; of medium size. A free bloomer.

**\*General Jacqueminot.** This might be called the rose for the million, for it is still a universal favorite; bright crimson scarlet, exceedingly rich and velvety. Grown more extensively than any other rose; one of the hardiest.

**\*General Washington.** Color brilliant crim-

son; very rich and beautiful; large, perfectly double, and a free bloomer.

**Madam Chas. Wood.** One of the most beautiful hybrid perpetual roses ever introduced; the flower is extra large, full and double; color deep rosy crimson, sometimes brilliant scarlet, with maroon shading; blooms soon after planting out and continues to bloom all summer.

**Fisher Holmes.** Bright red, beautiful; double; free bloomer.

**John Hopper.** Bright rose, with crimson center; splendid, fragrant and very desirable.

**Killarney.** The famous Irish rose. Flowers are rich imperial pink, on a very large bush. A vigorous grower, and free bloomer. This splendid Irish Hybrid Tea Rose created a sensation when first introduced and has certainly come to stay. It is a strong, vigorous grower and apparently hardy. There is no rose we know of in this class that blooms more freely than the Killarney, and the large size of the flowers and substance of petals are remarkable, petals often measuring two inches deep. The buds are large, long and pointed, and to add to their charm, are intensely fragrant. The color is exquisite, a brilliant imperial pink, almost sparkling, and beautiful beyond description.

**Kaiserin Augusta Victoria.** A Hybrid Tea Rose, soft, pearly white, lightly tinted with lemon in the center, just enough to relieve the white; remarkably fragrant; a strong, healthy grower with bold, beau-



Snow Queen.



tiful foliage. The habit is free; the beautiful, perfectly shaped flowers are borne in profusion on long, graceful stems, so that it will be invaluable for cut flowers.

**\*Frau Karl Druschki (Snow Queen).** Pure white. Perfectly hardy everywhere. It is a free bloomer and a vigorous grower. Everyone should plant this grand rose.

**J. B. Clark.** This splendid new rose is placed by some cataloguers among the Hybrid Teas; but it is perfectly hardy, unusually large, and expresses in every way the characteristics of the Remontant type. It is robust in growth, with clean, heavy foliage. Flowers are large and superbly constructed; deep scarlet overlaid with crimson.

**Mrs. John Laing.** Soft pink, beautiful form, exceedingly fragrant and very free flowering.

**\*Mad. Ravary.** One of the best of the yellow bedders; with long, slender buds and nicely double flowers. Long blooming season.

**\*Magna Charta.** A splendid sort; bright, clear pink, flushed with violet crimson; very sweet; flower extra large, fine form; very double and full. A free bloomer.

**\*Paul Neyon.** Flowers of immense size, often five inches in diameter; color deep, clear rose; very fresh and pretty; the plant is a strong, healthy grower, with clean, glossy foliage, and one of the most constant and prolific bloomers in the hybrid class; young plants in the nursery row bloom almost without intermission from June to late October.

**Prince Camille De Rohan.** Deep velvety



Prince Camille de Rohan.

crimson; large, moderately full; continues to bloom all summer; a splendid rose.

**Eugene Furst.** A beautiful velvety crimson with distinct shading of crimson maroon.

**Soliel D' Or (Sun of Gold).** Strong, hardy rose, orange yellow, tinged with red in center. Very beautiful.

**\*Gruss an Teplitz.** One of the best and most valuable hardy crimson ever-blooming roses. Flowers large, full and sweet.

**\*Mad. Plantier (Summer Rose).** Pure white, large, very double flower; perfectly hardy; suitable for hedge planting; foliage small; blooms early; one of the very best white roses; blooms on old wood, but does not need covering in winter.

## Moss Roses

The Moss Roses are strong growers and perfectly hardy. They remain in bloom a long time, and are greatly prized for their beautiful, mossy buds.

**Countess of Murinais.** The finest white moss rose; large, very beautifully mossed.

**Glory of Mosses.** Pale rose, very heavily mossed; one of the best moss roses in cultivation.

**\*Luxembourg.** Large, cupped; fine purplish crimson; a luxuriant grower and free bloomer.

## Yellow June Roses

**Harrison Yellow.** A beautiful small yellow June rose, perfectly hardy.

**\*Persian Yellow.** Perfectly hardy; flowers double and full, deep golden; blooms freely in June; the finest hardy yellow rose grown, and not supplanted as yet by any modern introduction.



Gruss an Teplitz.



## Dwarf Polyantha Roses

This is a novel, distinct and charming class of roses. The plant is of dwarf habit and bears abundantly and continuously clusters of dainty, small flowers, of perfect form and of various shades of color. While they are admirably suited to cut for bouquets and boutonnières, they are ideal bedding roses, and supply a long felt want among rose culturists for that purpose.

**\*Baby Dorothy (Maman Levvasseur).** This latest introduction of the well-known raisers of the now famous Crimson Baby Rambler (Mme. Norbert Levvasseur) is similar in all respects to that variety except that the flowers are of a clear, brilliant pink and very freely produced.

**\*Baby Rambler Pink (Anny Muller).** Large clusters of brilliant rose-colored flowers in great profusion. A splendid bedding variety. Blooms all season until buds are killed by severe frosts.

**\*Baby Rambler Red (Madame Norbert Levvasseur).** A dwarf form of the widely known and popular climbing rose, Crimson Rambler, being hardy, vigorous and perpetual flowering. The flowers are large, well formed, of a crimson red color, and borne in clusters.



Baby Rambler.

**Baby Rambler White (Katherine Zeimet).** Pure white in large clusters; very freely flowering.

## Climbing Roses

Nothing can cover an arbor or veranda or form a more beautiful screen for an unsightly object so charmingly as a climbing rose; needs but one planting, and increases in beauty as years go by.

**Baltimore Belle.** Pale blush, shading to rose color; very double; flowers in beautiful clusters, the whole plant appearing a perfect mass of bloom; one of the best climbing roses. Must be protected in winter.

**\*Prairie Queen.** Clear, bright carmine pink, sometimes with a white stripe; large, compact and globular; blooms in clusters; the best hardy climber, except Crimson Rambler, in this climate.

**Seven Sisters.** Blooms in large clusters, with flowers varying from nearly white to crimson; dark green foliage; should be protected.

**\*Excelsa (Improved Crimson Rambler).** This magnificent climbing rose takes the place of the old Crimson Rambler and is in every way a great improvement. The clusters and individual flowers are much larger and the colors more brilliant, being an intense crimson-maroon, and borne in the typical Crimson Rambler trusses. Foliage is not subject to mildew; very hardy, and exceedingly vigorous in growth.

**\*Dorothy Perkins.** This is the most beautiful climber we have, having a clear, healthy foliage. Flowers good size for this class; borne in clusters; full and double and of clear shell pink color; beautiful, fragrant and reliable.

**Tausendschon (Thousand Beauties).** A rapid growing, almost thornless climber, showing the blood of Rambler, Polyantha and Tea parentage. Its innumerable flower clusters make a pretty show through June and July; at first, the soft pink of Clotilde Soupert, and later deepening to a bright carmine rose.



Dorothy Perkins.



**\*Crimson Rambler.** This beautiful climbing rose is surely deserving of much praise. The plant is a vigorous grower, making shoots eight to ten feet long in a single season; a very desirable climber for covering trellises, verandas or arbors; blooms early in the season; the flowers with which the plant is covered are produced in the brightest trusses of very bright crimson color, making a most beautiful appearance when in bloom.

**White Rambler (Thalia).** Beautiful snowy-white rose, borne in clusters; a good climber and does well under good treatment. (The Yellow Rambler with us has been a failure.)

## Rosa Rugosa

This class of Japanese Roses forms sturdy bushes, four to five feet high, covered with large, dark green, crinkled glossy foliage, crowned with terminal clusters of ten to twenty flowers, each three inches in diameter. Perfectly hardy. A valuable plant for the hardy border or shrubberies, the large, handsome, scarlet hips being very ornamental all through the autumn and early winter months. It also makes a splendid hedge, its foliage being impervious to the attacks of insects.

**\*Rubra.** The typical Rugosa Rose, with large, single, crimson flowers followed by scarlet hips. The foliage is beautifully crinkled.

**Alba.** Pure white, with typical Rugosa foliage and orange hips.

## Rugosa Hybrids

**Conrad Ferd. Meyer.** An early flowering hybrid combining the ornamental qualities of its Rugosa foliage with the blossom beauty and perfume of the Hybrid Perpetuals. Flowers large, cup-shaped and double; of a delicate silvery pink. Very hardy.

**Nova Zembla.** A sport of the Conrad F. Meyer, with large, well-shaped white flowers; a great acquisition.

**Amelia Gavereau.** This is one of the Rugosa family, having the same general habits and hardness of the above sorts. Color of bloom, red.

**\*Sir Thomas Lipton.** We consider it, without exception, the best double white rose in its class; beautiful in foliage; early and constant in bloom.

## Evergreens

A few varieties of Evergreens, judiciously selected and properly planted, will prove perfectly hardy and very satisfactory.

Directions for planting, see pages 2 to 4.

### Arborvitae

**American, or White Cedar.** This tree is very unique in its habits of growth, the leaf gradually hardening and forming the wood of the tree; habit upright; much inclined to branch and form more than one trunk; one of the best trees for ornamental hedging.

**Globosa.** Round, compact form and dense foliage. Foliage stands fan-shaped form around trunk; it is a beautiful tree.

**Golden.** Same form and habit as the American Arborvitae, but with bright yellow foliage on new growth.

**Pyramidal.** A densely branched variety forming a perfect column; holds its shape without trimming or pruning; hardy, and will succeed anywhere the American Arborvitae does; a very ornamental type for many kinds of planting.

### Fir

**Balsam.** A very regular, symmetrical tree, assuming the conical form even when young; leaves dark green above, silvery beneath; very ornamental while young.

**Concolor.** A very beautiful species with silvery gray bark on the young branches; leaves long and beautifully silvered, arranged in double rows, equal in color and beauty to the Colorado Blue Spruce. The most beautiful of all Evergreens. Hardy in eastern Nebraska.

### Pine

**\*Austrian or Black Pine.** A native of the mountains of Syria; a rapid growing species, with long, stiff dark green leaves; very hardy; does well on the high prairies.

**\*Jack.** The most northern and easiest transplanted of all American pines; withstands drouth and hardships better than any other; of rather irregular growth; foliage bright



Koster's Blue Spruce.

green, needles short and stiff. Valuable for groves and windbreaks.

**\*Scotch.** A native of the British Islands; very rapid in growth; "a dark, tall evergreen," with a bluish foliage and rugged shoots; hardy and grows well even in the poorest soils.

**White.** The most ornamental of all our native pines; foliage light, delicate or silvery green; flourishes in the poorest soils.

**Mugho (Dwarf Mountain Pine).** This is the most beautiful of all dwarf pines. It forms a low top with ascending branches, and the breadth of the tree is frequently double its height. Foliage bright green. A valuable tree for ornamental planting.

## Spruce

**\*Norway.** A lofty elegant tree, of perfect pyramidal habit; remarkably elegant and rich; and as it gets age, has fine, graceful, pendulous branches. It is exceedingly picturesque and beautiful. Fine for windbreak.

**\*White.** A tall tree, with compact branches and light green foliage; hardy.

**\*Black Hills.** Compact, shapely and of deep green color. As the name would imply, it is a native of the Black Hills, hence naturally adapted to dry weather and high altitudes. It is one of the very best for Nebraska and South Dakota.



Austrian Pine.

**\*Colorado Blue Spruce.** This species has been tested at various points on the prairies of the West and Northwest with perfect success. This is not only one of the hardiest, but the most beautiful in color and outline; foliage of a rich blue or sage color. It is a valuable acquisition.

**Koster's Blue Spruce.** A type of the Colorado Blue Spruce; it is the highest colored and most striking of all the Evergreens for lawn planting; the foliage is a rich and beautiful silvery-blue; very hardy.

## Cedar

**Colorado Silver.** This variety is midway between our native cedar and the Irish Juniper in form, but far more silvery than either. More beautiful in color than the Colorado Blue Spruce.

**Red Cedar.** Hardy; rugged; native. Will stand more rough and tumble care than any other evergreen. It might possibly be found of value in the driest hills of Nebraska and Dakota, but we consider it a dangerous tree around an orchard or in the neighborhood where there are orchards on account of the fungus, which is called cedar rust, which develops on the cedar trees and not only kills the cedar itself, but is very destructive to the foliage of the apple and some of our best roses and ornamentals; also ash and other deciduous trees.

**Prostrate Juniper.** A native of the Black Hills; new and novel. Creeping evergreen that attains no height whatever in body, but creeps vine-like. Is very desirable for covering walls or terraced mounds on the lawns or landscape; also fine for edging in cemeteries; stands trimming well and is very hardy.



Black Hills Spruce.



# Spraying Formulas

## Spraying the Apple

All plants have their insect and fungous enemies. The apple has its share of them, but these may be easily controlled by spraying. While it is attacked by many different insects and fungous diseases, each of which takes its toll, the fruit growers, as a rule, need pay attention to but two pests, i. e., codling moth (apple worm), and apple scab. When controlling these two pests with sprays, practically all others are incidentally held in check. One of these is an eating insect and must be fought with an arsenic poison. The other is a fungous disease, and must be controlled with a fungicide or germ destroyer. Generally, in Nebraska, both materials are needed at about the same time, and they are combined and applied as one spray. Some fruit growers use them separately, but many of the most successful growers use the combination spray for all applications. While occasionally a small amount of material may be wasted by this method it is safest procedure.

## For Insects That Chew

The most common and best form of arsenic used is "arsenate of lead." This may be secured from drug stores and seed and garden supply houses. Thoroughly dissolve three pounds of paste arsenic of lead or  $1\frac{1}{2}$  pounds of dry arsenate of lead in a small amount of water in a pail and add to fifty gallons of water or other spraying solution.

## For Fungous Diseases

For the fungous diseases Bordeaux mixture or lime-sulphur solution may be used. Bordeaux is prepared by dissolving four pounds of copper-sulphate (bluestone), in a small amount of water and diluting to twenty-five gallons; slacking five to six pounds of good lime and adding water to make twenty-five gallons. These solutions should then be combined by pouring or dipping simultaneously from each into a third vessel or spray tank.

The commercial lime-sulphur is a very good fungicide and is used almost exclusively by many fruit growers. It is diluted thirty-five to forty times for summer spraying. This may be obtained from same sources as arsenate of lead or direct from manufacturers. To combine the fungous spray and the insect spray simply add the dissolved poisons to the fungus solutions.

**First Application**—This application should be made just after the cluster buds open, but before the individual flowers open, or when the trees first begin to appear pink. It is directed mainly against apple scab, which is a fungus, and the principal part of the spray material should be Bordeaux or lime-sulphur. It is safest, however, to use the combination spray with the arsenate of lead added. This application should be thorough and be directed mainly against the trunks and main limbs. It is the most important application against apple scab. For this application use stronger solution of lime-sulphur, 1 gallon concentrate to ten gallons of water. Later application should be diluted as indicated above.

**Second Application**—This application should be made immediately after the petals fall. It is the main application against the codling moth (apple worm). It is important to make this application at the proper time. Direct the material downward as much as possible to fill all calyx cups which point upward at this time. Use the combination material, but be sure to have the right amount of arsenate of lead included, as this is the important part of the solution for this application.

**Third Application**—This application should be made from seven to ten days after the second spraying. It is applied to reinforce the former application against the numerous little apple worms that appear about this time, and to cover all new growth which is coming out very rapidly during this period. Use the same solution as for the second application.

**Fourth Application**—If the former applications have been every thorough and effective this application will not be necessary. It is directed mainly against the second brood of codling moth, which will appear if any escaped former applications. Most commercial growers make this application without fail, however. The same mixture as for former applications with the strength of fungicide reduced one-third should be used. This application should be made about the 10th of July.

## Spraying Machinery

**Spraying Machinery**—The size of the spraying outfit needed depends on the size and age of orchards. High pressure is essential for effective work in all cases. While this may be obtained with high-grade hand-power outfits, it is slow and hard work to maintain the pressure. For small orchards containing up to 100 or 200 trees, however, this kind of an outfit can be made to do satisfactory work. But for larger orchards gasoline power outfits are recommended. These are now manufactured in several sizes, but all maintaining the same high pressure. The

prices range from about \$100 up for complete outfits. These are assembled in such manner that the engine may be easily disconnected and be used throughout the year for pumping water and other light work about the farm, making the actual extra cost for the pumps and other equipment little more than for the best hand outfits.

In some sections power machines are owned jointly by several orchard owners and the same machine sprays all orchards. Such machines are also owned and operated by individuals who spray for their neighbors like the practice with threshers, shellers, etc.

If interested in a spraying outfit advise us and we will place you in touch with manufacturers of good machines.

## Other Sprays and Their Uses

**Kerosene Emulsion**—Kerosene in its natural, undiluted state, is fatal to all insect and vegetable life, but properly prepared may be used safely and with much benefit.

Dissolve a bar of Ivory soap in one gallon of hot water, then add two gallons of kerosene and churn it vigorously until cool. If made right, it is then like cream, and will keep indefinitely. For general use take one part of the mixture to ten parts water and use as a spray. Will be found very valuable in getting rid of aphids, mealy bugs, red spider, etc. May be used against any soft-shelled insect.

**Copper Sulphate Solution**—Copper sulphate, one pound; water, fifteen gallons. Dissolve the copper sulphate in water, when it is ready for use. This should never be applied to foliage, but must be used before the buds break. For peaches and nectarines use twenty-five gallons of water. For fungous diseases.

**Hellebore**—Fresh white hellebore, one ounce; water three gallons. Apply when thoroughly mixed. This poison is not so energetic as the arsenates and may be used a short time before the sprayed portions mature. For insects which chew.

**Tobacco Decoction**—A spray for plant lice, etc. Steep the midveins or "stems" of tobacco leaves in an amount of water sufficient to cover them, and, when their strength is well drawn out, dilute the liquid until it has the color of fairly strong tea. Spray on the plants, taking care that the insects to be destroyed are reached by the decoction.

Commercial tobacco and nicotine preparations in concentrated form may be used. These give same results as above when diluted as per directions.

## Enemies of Roses and Other Ornamentals and Treatments to Apply

The Rose Slug (*Selandia Roset*), is a light green insect about an inch in length. There are apparently two kinds, one of which eats only the outer skin of the leaf on the under side, the other eats the entire leaf.

As a preventive use a solution of one pound of whale oil soap in eight gallons of water as a spray. Applied daily for a week in the spring before the buds begin to develop it will never fail to prevent the attacks of this insect. If this precaution has been omitted and the insects are seen on the leaves White Hellebore dusted on the plants will be quickly effective. Also arsenate of lead  $\frac{1}{2}$  ounce to one gallon of water is good.

**Red Spider (*Acarus Tellarius*)**—So small as to be practically invisible to the naked eye. Works on the under side of the leaf, which has a sickly, dusty appearance and finally drops from the plant. Cannot thrive except in a hot, dry atmosphere. Hard spraying with clear water several times daily, after picking and burning the leaves most effected will be found effective.

**Mildew**—A parasitical fungous common to vegetation that is exposed to sudden changes of temperature. Chilly nights in spring and fall cause it to appear on roses, etc. Sulphur

applied in various forms is a certain specific. For a spray, dissolve one ounce of potassium sulphide in two gallons of water. This is very effective. Pulverized sulphur, dusted over the affected foliage while the dew is on, is also good.

**Combination Spray** recommended by Eastern rose and ornamental growers:

Dissolve one-half small bar (about 3 ozs.) Ivory Soap in one quart of soft hot water. When cold add one-half pint of coal oil, whip it for ten minutes as you would beat an egg. It will become frothy or creamy, then add three quarts of soft water, making one gallon. Add the strength of four ounces of smoking tobacco steeped in two quarts of water, making six quarts of the mixture, then add sixty drops of carbolic acid. Mix thoroughly twenty-four hours before using. Keep in a cool place in a jug corked up. Shake well before using and apply with a sprayer in a mist form on your bushes. Spray under the leaves and on top. Commence when the rose leaves are as large as your little finger nail. If it should be a wet time spray twice a week if necessary. This mixture will keep your roses clear of insects. If the mixture should seem too strong weaken it a little.



# *TABLE OF CONTENTS*

	Page
Advice to Correspondents.....	2
Apple, The .....	6
Summer .....	6-7
Autumn .....	7
Winter .....	7-8-9
Crab .....	10
Apricots .....	14
Asparagus .....	23
Blackberries .....	18
Bulbs and Tubers .....	34-36
Care of Stock When Received.....	2
Cherries .....	12
Currants .....	22
Directions for Transplanting, Care, Etc.....	2
Evergreens .....	41-42
Guarantee of Genuineness .....	2
Grapes .....	16
Black .....	16
Red .....	16-17
White .....	17
Gooseberries .....	23
Hedges .....	33
Juneberries .....	18
Number of Trees and Plants on an Acre.....	2
Mulberry .....	18
Ornamental Department .....	24
Shade and Ornamental Trees.....	24-26
Weeping Trees .....	27
Planting .....	2
Pruning .....	2
Pears .....	11
Plums .....	13
American .....	13
European .....	13
Japanese .....	13
New Hybrids .....	14
Peaches .....	15-16
Raspberries .....	19
Black .....	19
Red .....	20
Rhubarb .....	23
Roses .....	38
Hardy Hybrids .....	38-39
Moss .....	39
Yellow .....	39
Dwarf .....	40
Climbing .....	40-41
Rose Enemies and Treatment.....	44
Strawberries .....	20
Everbearing .....	21
Shrubs .....	28-32
Ornamental .....	29
Spraying Formulas .....	43-44
Vines .....	37



